A BARGAINING THEORY APPROACH TO DEFAULT PROVISIONS AND DISCLOSURE RULES IN CONTRACT LAW*

JULES L. COLEMAN**
DOUGLAS D. HECKATHORN***
Steven M. Maser****

I. THE PROBLEM

Legal rules facilitate as well as constrain human freedom. H.L.A. Hart captures the difference between these two functions of law by distinguishing between primary and secondary rules.[1] Primary rules impose obligations and thereby constrain behavior. Secondary rules empower individuals to create relations that confer rights and impose duties.[2] Thus, the criminal law constrains individual liberty; the law of contracts enhances it.

Within this framework, the foundation of contracting is mutual agreement. Contractual duties are self-imposed. They are consequences of individuals authoritatively exercising their autonomy under private enabling rules. Coercive civil authority is justifiably employed to enforce contractual obligations because the parties have agreed so to constrain themselves. Of course, even if the parties to a contract agree to bind themselves to one another, it does not follow that they have agreed thereby to

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** Professor of Law and Philosophy, Yale Law School.

*** Associate Professor, Departments of Sociology and Economics, University of Missouri-Kansas City.

**** Professor, Atkinson Graduate School of Management, Willamette University.

1. H.L.A. HART, CONCEPT OF LAW (1961).

2. Hart is not always consistent in drawing the distinction. He characterizes secondary rules as power conferring. Some confer power on private individuals, others authorize officials. Unfortunately, the rule of recognition, which for Hart is the signature of a legal system, is a secondary rule, but it confers power on no one.

have their obligations to one another enforced by the state (or by any other third party).[3]

A. *The Default Rule*

On the assumption that contracting parties are narrowly rational and fully informed, a contract between them that foresees and responds to all possible contingencies would be efficient, or Pareto optimal. That is the definition of a fully specified contract. Because a fully specified contract is efficient, it puts the parties to it in a position where neither can improve his or her lot except at the other's expense. A fully specified contract is also an equilibrium, that is, it is self-enforcing in the sense that no party has an incentive unilaterally to defect from its terms.

Although imagining problems in contract design and execution and devising adequate safeguards against all possible sources of contract failure is a logical possibility, it remains (for everyone but the Gods) a practical impossibility. Even were it practically possible, fully specifying a contract might be irrational in that the expected costs of a more complete specification may exceed the expected gains from nailing down a particular solution to an imaginable, but unlikely, possibility.

Unlikely events are not impossible, however. Contingencies arise with which the contractors have not explicitly dealt. Such is the stuff of contracts casebooks. When contingencies arise for which no adequate provisions have been made ex ante, the parties may disagree about their respective rights and duties ex post. Sometimes they are able to resolve the conflict privately. If they are unable to resolve the conflict privately, however, the

3. Randy Barnett (and much black letter law) holds a different view. For him, to contract is to commit oneself to an enforcement mechanism. This view presupposes a conception of contract embedded within legal or other institutions, including those with the authority and power to enforce contractual terms. *See* Barnett, *The Consent Theory of Contract*, 86 COLUM. L. REV. 269 (1986). We can distinguish between two senses of "contract." The first is the legal one in which to contract is to commit oneself to a coercively enforceable set of rights and responsibilities. The other is the ordinary langage or nontechnical sense in which legal enforcement is not presupposed. Our goal here is to understand the legal practice of contracting. To do so, we believe it is helpful to explain the roles of courts in enforcing agreements by asking under what conditions, if any, rational parties would call upon third parties, including courts, to facilitate or to enforce agreements between them. This approach presupposes that we can imagine circumstances of contracting without law. Thus we take the ordinary sense of contracting as basic and the legal or juridical one as derivative. We explain the latter in terms of failures of private contracting, as we define that term later in this article.

parties may find themselves in court. What rights and responsibilities can a judge, legitimately exercising his or her authority, impose upon them ex post?

It is often suggested that a judge should apply the following general rule: confer those rights and impose those duties to which the parties would have agreed ex ante.[4] Thus, when transaction costs make an explicit agreement too costly ex ante, the court should apply a *default* rule that "mimics" the outcome of a hypothetical contract between them.[5] The hypothetical contract is the one the parties would have made had transaction costs not made their doing so irrational.

As a default rule, the ex ante contract raises two distinct kinds of issues. The first concerns the content of the rule. How are we to model or to understand the ex ante contract? The second concerns the justification a court might have for imposing upon litigating parties the rights and responsibilities implied by the ex ante contract. The problem of justification is complicated by the fact that the parties are being held in contract to terms to which they did not explicitly agree. Given the ex post nature of the obligations and rights it distributes, is there any reason to think that one default rule is any more justifiable than another? Is there, in particular, a case to be made for the ex ante contract as the default rule?

B. *Consent and the Default Rule*

One approach to the problem of justifying a default rule is to connect it to a general theory of contractual obligation. What kind of argument might the theory of contractual obligation suggested by Hart's notion of a private empowering rule—that is, a consent theory—offer? What, in other words, is the relevant connection between explicit consent and hypothetical ex ante contracting?

We can distinguish between at least two kinds of arguments a consent theorist might advance to support the claim that an ex ante hypothetical contract is a uniquely appropriate way to es-

4. *See* Schwartz, *Proposals for Products Liability Reform: A Theoretical Synthesis*, 97 YALE L.J. 353 (1988), in which the tort problem of specifying the conditions of liability for defective product is recast as a contracts problem: that is, the terms of liability should be those the parties would have agreed to ex ante.

5. This is, of course, not the only default rule a judge can apply. In the alternative, a court might assign rights and responsibilities according to a principle of social justice, wealth redistribution or insurance.

tablish ex post the terms of incompletely specified contracts. The first argument relies on the justificatory force of hypothetical consent. Roughly, the argument is as follows: the claims the parties have explicitly imposed upon one another are legitimately enforced against the parties because they have actually consented to those terms. The default rule imposes rights and responsibilities to which the parties would have consented. To the same extent and in the same way that consent justifies a court imposing the rights and responsibilities made explicit in a contract, hypothetical consent justifies imposing the rights and responsibilities that are implied by the application of the default rule. Is the argument persuasive?

In the case of explicit consent, we recognize a difference between *unfree* acts and *irrational* ones. A person may consent to conduct detrimental to his interests (irrational, but free), or he may be compelled against his will to promote his interests (rational, but unfree—as in some forms of paternalism). The distinction between consent and rational self-interest becomes murkier in arguments attempting to establish the terms to which a particular person conceived of in a particular way *would* have consented. An example drawn from the economic analysis of law nicely illustrates this problem in arguments from hypothetical consent and the additional, more fundamental problem of justifying the imposition of duties ex post on the grounds that they would have been agreed to ex ante.

Economists evaluate allocations of resources and states of the world by the criterion of efficiency. From the moral point of view, is the efficiency of an allocation or of a social state a desirable property of it? In effect, this question is an invitation to consider the normative underpinnings of economic analysis. Moral arguments in favor of efficiency are of two sorts: utilitarian and consensual.[6] Only the latter concerns us here.

Economists distinguish among three criteria of economic efficiency: Pareto superiority, Pareto optimality and Kaldor-Hicks efficiency. S^1 is *Pareto superior* to S^0 if and only if no one prefers S^0 to S^1 and at least one person prefers S^1 to S^0. S is *Pareto optimal* if and only if there exists no S^i Pareto superior to it. S^1 is *Kaldor-Hicks efficient* to S^0 if and only if S^1 is potentially Pareto superior to S^0. S^1 is potentially Pareto superior to S^0 if in going

6. *See* J. COLEMAN, MARKETS, MORALS AND THE LAW 95-132 (1988).

from S^0 to S^1 resources could be arranged so that no one prefers S^0 to S^1 and at least one person prefers S^1 to S^0. Because the other efficiency concepts are defined in terms of Pareto superiority, we might ask what the relationship between it and consent could be. The consensual defense of Pareto superiority is very simple, and although it has been employed primarily by Richard Posner in his defense of efficiency, the argument has its roots in Nicholas Kaldor's work some fifty years earlier.[7] The argument is as follows:

(1) S^1 is Pareto superior to S^0 if and only if no one prefers S^0 to S^1 and at least one prefers S^1 over S^0.

(2) Therefore, each person would consent to S^1, that is, would choose S^1 over S^0.

Some Pareto improvements like rational, voluntary market transactions are in fact consented to, though it remains a further question whether typical market transactions are morally defensible because they are Pareto improving or because they have been voluntarily consummated. In any case, many Pareto improvements are not consented to by every person affected. Take the famous case of *Vincent v. Lake Erie Transportation Co.*[8] In this case, a dock owner refused to allow a ship to remain docked beyond the period of time set forth by the terms of a contract between the dock owner and the ship's captain, and ordered it to leave. The captain refused to set his ship free because it would very likely have been lost at sea, a victim of an impending storm. The ship remained docked, the storm came, and the ship repeatedly smashed the dock, resulting in $500 damages to the dock. The court held that even though the ship's captain acted correctly in firmly tying the boat to the dock, he was required to compensate the dock owner. If the ship's captain acted rationally, he was better off taking the risk and compensating the dock owner ex post than he would have been had he set the ship to sea. Provided the dock owner was fully compensated for whatever damages resulted from the ship captain's decision, the dockowner should be indifferent between what actually occurred and what would have occurred had the captain set his ship afloat. Thus, the outcome of the case constitutes a Pareto improvement, but not one to which all the relevant parties consented. In fact, the dock owner made

7. For a discussion of the argument, see *id.* at 115-29.
8. 100 Minn. 456, 124 N.W. 221 (1910).

every effort to express his unwillingness to agree to the captain's decision. Here we have a Pareto improvement that could not be justified on the grounds of consent.[9]

So the consent argument for the legal rule must be that ex ante the parties seeking to maximize overall wealth or utility *would have consented* to it, not that they actually *did* consent. The premise in that argument is simply the one stated above: all the relevant parties are made better off by the Pareto improving state (or at least are made no worse off by it). Thus, they prefer the Pareto improving state to the Pareto inferior one (Premise One). To say that they prefer one state to the other is to say that under normal conditions they *would choose* the former to the latter (Conclusion): thus we have the connection of Pareto superiority to hypothetical consent. The premise in the argument expresses the individual rationality of the proposed change; the conclusion expresses the parties' hypothetical consent to it. From the fact that a social state makes someone no worse off (that is, it is not irrational for him), we are to infer that the agent would have consented to it. Consent follows as a matter of *logic* from considerations of rationality.

Consequently, the concept of hypothetical consent expresses nothing that is not already captured in the idea of rational self-interest. The distinction between consent and rationality central to moral theory apparently evaporates. The claim that imposing obligations ex post is justified because the parties would have consented to them ex ante adds nothing to a defense of such a proposal that is not already expressed by the argument that imposing obligations ex post is justified whenever such obligations would have been *rational* for the parties ex ante. Thus, the reliance on ex ante rational bargaining provides a rationality or welfarist defense of the default rule, not a consensualist one.

A consent theorist needs another way of connecting hypo-

9. Posner has argued that by accepting compensation ex post, one gives consent, *see* Posner, *The Ethical and Political Basis of the Efficiency Norm in Common Law Adjudication*, 8 HOFSTRA L. REV. 487, 491 (1980), which in this case means that in spite of his protestations to the contrary, the dock owner consented to the captain's decision by accepting compensation. Surely this is seriously confused; first, because often people demand compensation not to give their consent to being harmed, but as *redress* for a wrong done to them; second, because if to accept compensation is to give consent, then the only way not to consent is to refuse compensation, which, of course, would ordinarily count *as giving consent*. The argument that compensation constitutes consent has things absolutely backwards.

thetical rational bargaining to hypothetical consent, a way that maintains both the analytic distinction between the two and the significance of both to a full consensual defense of contractual obligation. One approach could rely on the claim that the relationship between hypothetical rational bargaining and hypothetical consent is *epistemic*, not analytic. What it would have been rational for the parties to bargain for ex ante is not *equivalent* to what they would have agreed to, nor does it formally imply their agreement. It is, nevertheless, *evidence*, perhaps the best evidence, of what the parties would have agreed to ex ante. Rather than trying to derive hypothetical consent from rationality, the suggestion is that the former provides presumptive evidence of the latter. In the absence of contradictory evidence, that is, evidence contrary to that derived from the hypothetical rational bargain, it is legitimate to infer that the parties would have consented to that which would have been the outcome of a rational bargain between them.

The consent theorist's first strategy for defending the ex ante contract as a default rule, then, ultimately rests on the fact that what would have been rational for the parties ex ante is extremely strong evidence of the terms to which they would have agreed. What the parties would have agreed to ex ante in turn provides some justification for holding them to the terms ex post. This line of defense is, of course, incomplete pending an account of why it is that something to which individuals would have agreed (though they did not in fact) provides a civil authority with grounds for imposing those conditions upon them now (when they quite explicitly do not agree to those conditions).

The second line of defense open to the consent theorist is designed to obviate this last problem. In this view, by the very act of contracting the parties consent not only to a framework of explicitly created rights and duties, but to a jurisdiction for resolving conflicts that might arise in construing those rights and duties. Should the occasion arise, the jurisdiction to which the parties consent is authorized to impose rights and duties ex post that were not made explicit ex ante. To contract is, among other things, to consent to the relevant default provisions of the law. Thus, the rights and responsibilities allocated by a default rule ex post are, in a suitable sense, consented to ex ante. This line of argument eliminates the need to demonstrate

either that the terms imposed by the default rule would have been consented to by the parties, or that what the parties would have consented to ex ante provides a reason for imposing those terms upon them now. The importance of hypothetical consent simply disappears, and with it the need to establish an evidentiary or analytic connection between it and the ex ante rational bargain.

This approach appears to obviate two problems— specifying the relationship (analytic or epistemic) between rational bargaining and hypothetical consent, and arguing for the normative punch of the latter—but at the expense of creating others. The problem is that if this line of argument constitutes a sound consensual defense of the ex ante contract default rule, it also constitutes an equivalently good defense of all default rules. For if by consenting to a contract, one consents to a jurisdiction's default rule, then one consents to whatever rule the court applies—from those rules aimed at reconstructing a hypothetical bargain to those imposing fair terms, to others imposing efficient terms, to those imposing obnoxious terms, and so on. This reconstruction of the consent theory of contractual obligation, in other words, provides no sense in which the ex ante rational contract is special. If the ex ante rational bargain as a default rule has a special attraction for this sort of consent theorist, it cannot be, strictly speaking, a matter of consent.

If this argument works at all, it works too well. The next question is whether it works at all. It makes sense to say that two contracting parties consent to the obligations and rights their contract specifies to the extent each has alternative opportunities, or at least provided that none of the contractual terms are imposed unwillingly upon either of them. It follows, then, that the parties could be said to consent to a relevant authority's default rule only if they willingly, that is, noncoercively, choose it. This is not typically the case, however. The default rule of any jurisdiction is generally a non-negotiable part of their bargain. For that reason, it is questionable whether by consenting to a framework of contractual rights and responsibilities, the parties consent to the application of the operative default rule.

It is no counterargument that the parties could reduce the extent to which they rely upon the default rule. Although it is true that the parties could more fully specify their contract and

thereby reduce the scope of the rule's application, this shows only that the parties can agree to reduce or to minimize the rule's impact, not that in doing so they consent to the rule's use in the areas they do not contract around.

To feel comfortable with the claim that by contracting parties consent to the relevant default rule, we would have to assume something like a competitive market in authoritative jurisdictions. Then, the parties would choose jurisdictions based, among other things, on the default rule in effect.

If the consent theorist's claim is that a default rule is justified to the extent that it would be freely chosen in a competitive market for authoritative jurisdictions, then he too ends up relying upon arguments from hypothetical, not explicit consent. Moreover, the argument the consent theorist would very likely employ to defend the ex ante contract as a default rule would be that among all the possible rules, it is the one that is rational for the parties ex ante. In other words, the ex ante contract is individually and collectively rational and, for those reasons, would have been chosen by rational parties free to pick among alternative default rules. The rationality of the default rule follows from the fact that it reduces the costs of contracting. It enables each party to avoid the costs under other rules of contracting out, of ever more fully specifying their contract. Once again, the argument for the ex ante contract ultimately relies on hypothetical consent and a relationship, analytic or epistemic, between what is rational for someone ex ante and what that person would have consented to ex ante. The effort to replace hypothetical with explicit consent does not, in the end, avoid these problems.

In effect we can characterize a kind of research program for a consent theorist bent on defending the ex ante contract as a uniquely appropriate default rule. The program has three components. The first is to specify rigorously the content of the hypothetical rational bargain between the parties. The second is to determine what sort of evidence, if any, exists about what the parties would have agreed to that could ever contradict the evidence supplied by the hypothetical rational bargain. The third problem we have already mentioned. Even if we can specify rigorously the content of hypothetical rational bargains envisaged by the default rule, and can determine successfully in individual cases (or in general) the reliability of this informa-

tion for demonstrating what the parties would in fact have agreed to, it is a further question whether what they would have consented to provides a court with sufficient justification for imposing those terms upon them, let alone whether it provides the same sort of justification their actual consent would.

C. *Rationality and the Default Rule*

One problem that keeps emerging when we try to develop a hypothetical consent defense of the default rule is that the best evidence we have of what the parties would have agreed to is that to which it would have been rational for them to agree. We are left then to draw inferences from the latter to the former on the apparent assumption that, as between the two, only the former—what the parties would have consented to—provides a justification for allocating rights and responsibilities. Perhaps that assumption is unwarranted; perhaps considerations of rationality have justificatory force on their own. In that case, one could more straightforwardly defend the ex ante contract not on the grounds that parties in fact agree to it or would have agreed to the allocation of rights and responsibilities it sets out, but on the grounds that it or the rights and responsibilities it imposes are *rational.*

In this approach *rationality*, not consent, is the basis of contractual obligation and the foundation of legitimate third party enforcement. Thus, the justification for applying the default rule is not that it constitutes or is presumptive evidence of the parties' consent, but that, when made rigorous, it specifies rights and obligations that are rational for the parties. Such rights and responsibilities, because they are rational, are justifiably imposed on the parties.

This approach, which can also be characterized as a research program, also raises three kinds of problems. First, like the consent theory, the rationality theory must specify rigorously the content of the hypothetical rational bargain between the parties. Second, while the consent theory has an intuitively plausible theory of enforceable claims made explicit in contracts, it lacks a plausible theory of the default rule. That is, it takes consent as justificationally basic and is left to explain the relevance of rationality to consent. In contrast, the rationality theory has a plausible interpretation of the default rule: that is, the default rule provides a specification of the terms to which it

would be rational for the parties to have agreed. It must now give a plausible account of the role of actual consent, when such consent is present. In other words, because the rationality theory takes principles of rationality as justificationally basic, it gives an immediate explanation of the relevance of the default rule. It is left, however, with the task of explaining the significance of explicit consent in contract. If rationality carries the moral weight, what significance does consent have? Third, the rationality theory must show why rationality binds. We take it for granted that a state of affairs to which individuals voluntarily agree is, ceteris paribus, morally unobjectionable. But it is not obvious how the moral defensibility of a state of the world can be said to follow from its rationality.

In the rationality view, the relationship between rationality and actual consent cannot be one of entailment. Just as it does not follow logically that people agree to what is in their interests, it cannot follow logically that what they agree to is rational for them. Thus, in the rationality theory, actual consent, when present, does not justify; rather it provides *evidence*, again perhaps the best evidence, of what is rational for the parties. There is an interesting analogy in the relationship of consent to rational bargaining in the consent and rationality theories of contractual obligation. In the consent theory, rationality provides evidence of consent. In the rationality theory, consent provides evidence of rationality. Both theories also face justificatory obstacles. The consent theory may explain how consent justifies, but its adherence to the default rule requires it to explain how hypothetical consent justifies. Similarly, the rationality theory explains the relevance of the default rule, but it needs to explain the moral relevance of rationality.

Common to both strategies, moreover, is the problem of specifying the content of the default rule. The difference between them is the normative use to which the model is put. In the consent theory, the model of the "ex ante bargain" provides evidence of the terms to which the parties would have consented. In the rationality theory, it specifies what in a particular case, is rational, and, given appropriate premises connecting rationality to morality, what morally can be required of the parties.

What we have done so far is sketch out two research programs. Both rely on the ex ante bargain as a default rule, but

which gives a better justification of the legitimacy of a court's applying that rule? In this article we do not intend to adjudicate this dispute in the normative theory of contract. Our aims here are in a sense both more modest and more ambitious. We intend to take seriously the concept of the ex ante bargain and give it some flesh. We want to take appeals to the rational bargain that until now have been more abstract than concrete and give them some structure and rigor. It is not our concern here whether in doing so we advance the cause of any particular theory of contractual obligation. Our goal is to make a contribution to contract theory more generally: for without a specification of the parameters and structure of the rational bargain, appeals to it, however attractive in theory, will be empty in practice. Thus, we intend to give a full and rigorous characterization of rational bargaining in a way that will shed considerable light on both the analytic and the normative questions of contractual obligation. In the course of our presentation of this analytic structure, we attempt to explain how a central doctrine of contract law—disclosure—can be usefully illuminated by conceiving of the process of contracting as a scheme of rational bargaining.

If the idea of the contract as a rational bargain is ultimately unpersuasive, or if our efforts to illuminate some contract doctrines in rational choice terms is unconvincing, we nevertheless would have provided a way of giving content to the default rule: a way that is both rigorous and rich. For the idea of a rational bargain is a complex one, far more complex and difficult to apply than either contract theorists or judges have until now grasped.

II. The Rational Contract

A. *Bargaining and Contract: Introduction*

We begin by looking at how two parties engage in a contractual transaction, how they secure a rational bargain, *without law*. Our analysis benefits from recent formal literature on bargaining under both complete and imperfect information, part of the theory of cooperative games. It looks at how people resolve disputes involving elements of both conflict and cooperation. We depict contracting as a divisible prisoners dilemma game. Here, the parties secure no contract unless they agree on a way

of enforcing their agreement and of distributing any potential gains. The conditions under which they invoke third-party participation, including judicial or legislative intervention, and the form of that participation, depend on the costs of consummating the deal. Those costs derive from the inherent risks associated with imperfect information concerning the parties' transaction and the resources they devote to minimizing those risks. In sum, we look at contract law in light of what we know about bargaining, rather than vice versa. That is, although we think analytic study of bargaining "in the shadow of the law"[10] is important and useful, the theory of rational bargaining in the absence of law has a claim to analytic priority. It is that claim we mean to stake.

Anyone familiar with the literature on rational bargaining knows that there are different solutions to the bargaining problem, different ways of spelling out the distribution to which rational parties will agree. We employ a form of the theory that relies on the idea of bargaining as consisting of making claims and rational concessions from those claims. We call this concession theory.[11] Our purpose in doing so is not to establish that the specific distributions the concession theory predicts are superior to the distributions predicted by competing theories. Rather, concession theory captures important features of the way people go about bargaining, synthesizes unique features in the other theories, and adopts assumptions common to all. Therefore, it has a lot to say about the rules people would adopt ex ante to encourage contracting.

A bargaining theoretic approach to contract law has four features that recommend it over competing approaches. First, the bargaining approach admits reward-triggering norms as a basis for social control. Typically, economic and sociological theories, especially those based solely on the prisoners dilemma logic, depend on negative reinforcements to induce compliance with norms.[12] But according to bargaining theory, although one might sanction someone for failing to offer concessions or for violating an agreed upon division, the idea is to reward and

10. *See* Mnookin & Kornhauser, *Bargaining in the Shadow of the Law: The Case of Divorce*, 88 YALE L.J. 950 (1979).

11. *See* D. GAUTHIER, MORALS BY AGREEMENT (1986); Heckathorn, *A Unified Model for Bargaining and Conflict*, 25 BEHAVIORAL SCI. 261 (1980).

12. *See* Ellickson, *Of Coase and Cattle: Dispute Resolution Among Neighbors in Shasta County*, 38 STAN. L. REV. 623 (1986).

to encourage concession-making so as to secure cooperation. We can ask whether legal doctrines do that, and if so, in what ways.

Second, a bargaining theoretic approach takes explicit account of fairness as a part of contractual exchange. If people worry about fairness and if in every theory of rational contracting the parties ineluctably confront fairness concerns, then when and how do the courts take account of it? In fact and in theory, fairness matters. Under what conditions, then, will rational contractors require courts to act on that concern—and in what capacities?

Our approach shares with law-and-economics the importance of efficiency. It differs from many forms of economic analysis in virtue of bargaining theory's emphasis upon the division or fairness problem. Our approach shares with the law-and-society tradition, the importance of *context*. Rational decision-making is necessarily sensitive to the context of the decision. The status quo is relevant; contracting always occurs within a pre-existing web of continuing, contractual relationships. The resources parties bring into bargaining are relevant. And the uncertainties peculiar to different contexts are relevant.

Our approach shares with moral theories the importance of fairness and justice to the legitimacy of civil authority. However, unlike other theories, it appeals to criteria of fairness or justice endogenous to transaction relationships. It does not view contracting as necessarily constrained by external standards of fairness; rather it views the process of rational contracting as, in part, specifying the relevant conception of fairness.

Third, bargaining theory takes a unified view of contracting. It dispels the illusion that contract law doctrines are independent of one another. For example, legal scholarship and judicial decisions present damage measures, disclosure rules, and unconscionability as if they have nothing to do with each other. That is wrong. People will have difficulty reaching an agreement not only if they fear it may become uneconomic, which is relevant to establishing damage measures, but also if they fear it might become unfair, which is relevant to recision because of unconscionability. Their estimates of these fears depend in part on their investments in information, including the representa-

tions they make to each other, which in turn bears on the appropriateness of disclosure rules.

Fourth, analyzing the process of rational bargaining in the absence of law yields insight into the varying role of the court in contracts, specifically, into the conditions under which people turn to courts, and the defensibility of various contract law doctrines that have emerged in response. Like any other device to safeguard bargains, the court mitigates some of the risks of contracting better than others, but it is imperfect and costly. It can be more efficacious than alternative devices. People choosing among devices aim to minimize the sum of the costs of uncertainty and of safeguarding against it. Specialized doctrines in law emerge when rational bargainers charge the courts with effecting that policy.

B. *Three Problems in Contracting*

The terms of an agreement to cooperate among two or more people, their *contract*, stipulates (1) specific actions by each to be carried out at some time in the future, and (2) rewards and penalties to be meted out following compliance or defection. These terms constitute safeguards crafted to minimize and allocate risk, but in doing so the terms create risks of their own. What are the conditions under which rational actors will agree to cooperate if charged explicitly with designing a policy to cope with risk and uncertainty in their environment?

The decision-making calculus that rational actors use in crafting a contract is relatively complex because it requires resolving three distinct but intertwined problems: (1) coordination, (2) division, and (3) defection. These problems are captured in a type of game termed the divisible prisoner's dilemma. While other types of games (for example, pure coordination or division games, prisoner's dilemmas) typically isolate one feature of rational decision that can come into play in contracting,[13] this game describes *three* such features, the interaction between those features, and their informational requirements.

The divisible prisoner's dilemma involves three principles of rationality: (1) rational cooperation, (2) rational division, and

13. *See* Landa & Grofman, *Games of Breach and the Role of Contract Law in Protecting the Expectation Interest*, in 3 RESEARCH IN LAW AND ECONOMICS 67 (R. Zerbe ed. 1981).

(3) rational compliance. Failure to satisfy any one of the three demands of rationality leads to contract failure; satisfying all three is necessary and sufficient for agreement and performance on a contract.

An example of the divisible prisoner's dilemma is depicted in matrix (normal) form in Figure One. For the moment, assume

Figure 1: Divisible Prisoner's Dilemma

		Player B Performance		
		Contract 1	Contract 2	Non Performance
Player A	Contract 1	Contract$_1$ 19, 7 C_1	Status quo 9, 2 D	B free rides 3, 11 NP_b
	Contract 2	Status quo 9, 2 D	Contract$_2$ 16, 10 C_2	B free rides 3, 11 NP_b
	Non Performance	A free rides 22, 1 NP_a	A free rides 22, 1 NP_a	Status quo 9, 2 D

that each player knows both payoffs in all of the cells. Player *A* (row) and player *B* (column) each make a three-dimensional choice. Each must decide whether to contract or not; and if the choice is to contract, whether to seek and honor contract one or contract two. In making this decision each of three problems of rational contracting emerges.

The *coordination problem* is resolved by whether or not the parties share a common interest in contracting over acting individually. To motivate acting in concert, they must identify feasible gains that would otherwise be unobtainable. In our example, the two contracts represented by cells one and five represent

higher payoffs for both parties than do the noncontract alternatives. Thus, we would expect the players to solve their coordination problem. Doing so is not sufficient for contracting, however, for two problems remain. A *division problem* arises if player *A* prefers contract one to contract two whereas player *B* has the opposite preference. Consequently, opposed preferences regarding how to contract complicate the common preference for a contract over no contract. A *defection problem* arises if a player gains from unilaterally defecting from a contract once agreement is secured.

The defection problem is illustrated powerfully in the nondivisible or standard prisoner's dilemma in which the dominant strategy for each player is to defect from whatever agreements he or she has made. In our example, *A* gains by defecting to cell seven or eight, and *B* gains by defecting to cell three or six.

C. *Phases in Contracting*

Each problem in the contractual relationship corresponds to a distinct phase of the contracting process and involves a distinct principle of rationality.[14] First, in the *pre-phase* the decision whether to coordinate, that is, whether to seek a contract, is made. If the parties are rational, each predicates an affirmative decision on expectations that joint gains will be attainable under the contract. Second, in the *negotiation phase* the decision of how to contract is made. That is, the parties agree upon the terms of the contract, specifying the manner in which the gains resulting from the contract and the burdens of enforcing it are to be allocated. Finally, in the *post-phase* each party makes the decision to fulfill or to violate the contract and monitors the compliance of others.

Each phase contains a potential pitfall. That is, individuals may fail to contract because (1) one or more of the essential parties prefers to act independently rather than to seek a contract, (2) the parties fail to agree upon the terms of the contract, or (3) the contract collapses owing to a violation of its

14. For the sake of the exposition, we treat each phase in temporal progression and as distinct from the others. In fact, a rational bargainer may treat concerns arising in different phases of the process at the same time or in the reverse order we suggest. Ours is an analytic device, in which the phases of contracting progress in logical space-time.

terms. Each phase is distinct not only in the sense of carrying its own pitfalls to contracting; to succeed at each phase, a contract must meet the demands of distinct but ultimately related rationality conditions. The phases of contracting and their respective rationality conditions are developed below.

1. *Pre-phase: Joint Rationality*

No one can expect another person to engage in contracting unless *each* perceives an opportunity for *mutual* gain. That surely is the operating assumption when a buyer responds to a seller's "for sale" notice and when labor negotiates with management. Indeed, it is such a commonplace that we tend to take it for granted, overlooking its analytical importance.

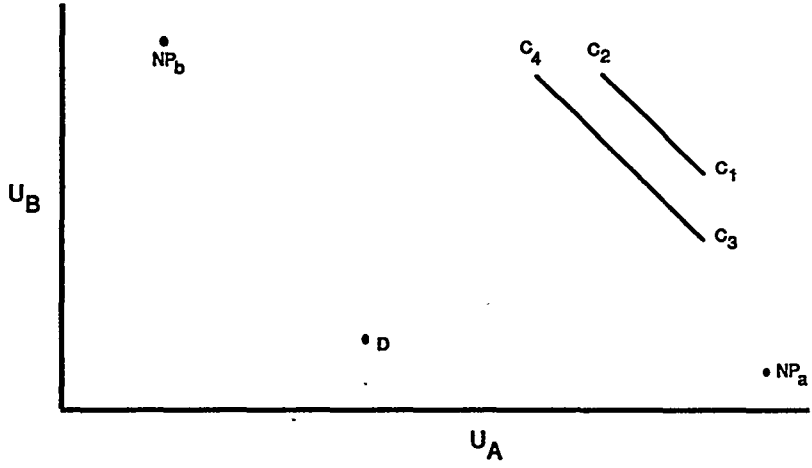
We can put this obvious fact about contracting in an analytically precise way. A necessary condition for agreeing to a contract is that its expected outcome satisfies what may be termed the *joint rationality* condition. If U_i is the utility that individual i expects to secure in contracting; D_i is i's utility from disagreement (that is, the status quo); $U = (U_a,U_b)$ is a given agreement's utility vector; and $U' = (U'_a,U'_b)$ is any other feasible agreement's utility vector, U is jointly rational if for each feasible outcome U',

$$U_a > U'_a, \text{ or } U_b > U'_b. \qquad (1)$$

The joint rationality condition can be clarified by analyzing Figure Two below.

C_1, C_2 represents the contract curve, that is, the set of Pareto optimal outcomes to the northeast of D. D, in turn, represents the disagreement point, the outcome that results if the parties fail to reach agreement. NP_a and NP_b are the non-performance outcomes. NP_a results when *A* and *B* reach agreement with which *B* complies and from which *A* defects. NP_b represents the outcome that results when *A* complies and *B* defects. These are the free-rider outcomes. Both are Pareto optimal in the sense that no points lie to their northeast in the utility-space representation of the game. Though Pareto optimal, they are not Pareto superior to D, and thus, they do not lie on the contract curve C_1, C_2. NP_a, NP_b, and all the points on the contract curve C_1, C_2 are jointly rational or Pareto optimal. Only points on the contract curve, however, are Pareto optimal and Pareto superior to D.

Figure 2: Divisible Prisoner's Dilemma in Utility Space



If information is imperfect or incomplete, each party has an incentive to expend resources to inquire whether a bargain with someone else promises to be advantageous. These resources are *transaction resources*. At the coordination or prephase, parties may expend transaction resources to identify and secure D at the outset. Everyone wants a referent from which he can evaluate feasible outcomes. Contracting will breakdown and may not even begin without it (as is the case in labor-management negotiations with newly certified unions whose legitimacy is uncertain). Similarly, individuals cannot take for granted the existence of the contract curve, even though opportunities for more efficient cooperation tend to exist in every relationship. If people must expend resources to determine the location of the disagreement point or the contract curve, some or all of the gains from contracting are consumed, that is, in terms of Figure Two, C_1, C_2 moves toward C_3, C_4.

The magnitude of the coordination problem measures the social gains foregone by failing to coordinate.[15] We define the *magnitude of the coordination problem*, M_C, as the *maximum proportion of the gains attainable from contracting that a rational contractor in the system could be motivated to expend on transaction resources to resolve the coordination problem*. This is the ratio of the gain resulting from

15. For an analysis of coordination games, see T. SCHELLING, THE STRATEGY OF CONFLICT 83-118 (1960).

coordination to the maximum gain attainable from contracting over not contracting. The former is the difference between the individual's best hope payoff, B_i, defined as the highest payoff awarded on the contract curve, and the individual's payoff from the noncooperative outcome, N_i, that is, the utility awarded individual *i* by the outcome (or mix of outcomes) resulting if the potential contractors act independently rather than jointly. For example, in Figure One's game if the players sought to contract but failed to correlate their choices between the two alternative contracts (that is, each would choose contract one or two with equal probability), they would contract only fifty percent of the time (cells one or five), and end up at the status quo (cells two or four) the rest of the time. That mixture of outcomes would, on average, award a utility of $N_A = 13.25$ and $N_B = 5.25$.[16] The difference between the best-hope outcome and the noncooperative otucome, $B_i - N_i$, is the gain attributable to coordination. This is the maximum amount that a rational contractor could be motivated to expend to resolve the coordination problem.

Similarly, the maximum gain awarded to the individual as a result of contracting is the difference between the best-hope payoff, B_i, and the disagreement payoff, D_i, that is, $B_i - D_i$. In consequence, the magnitude of the coordination problem for individual *i*, M_{Ci}, is given by the following expression:

$$M_{ci} = (B_i - N_i)/(B_i - D_i) \qquad (2)$$

For example, in Figure One's system, player *A*'s coordination problem is $M_{Ca} = (19 - 13.25)/(19 - 9) = 0.575$, and player *B*'s problem is $M_{Cb} = (10 - 5.25)/(10 - 2) = 0.59$.

The magnitude of the coordination problem faced by a group of individuals can be defined as the maximum problem faced by any of its members, that is,

$$M_C = \text{Max}[M_{Ci}] \qquad (3)$$

For example, in Figure One's system, $M_C = 0.59$. This expression indicates the maximum proportion of contractual gains that any rational group member could be motivated to expend on resolving the coordination problem. This figure is not iden-

16. Alternatively, if the focus of analysis is the problem of coordination in general, rather than the problem of implementing given a prior decision to contract, the noncooperative outcome can be defined as the Nash noncooperative equilibrium. *See* Nash, *Non-cooperative Games*, 54 ANNALS OF MATHEMATICS 286-95 (1951).

tical to actual expenditures to resolve the coordination problem. According to the principles of transactions-cost economics, individuals have incentives to minimize their expenditure of transaction resources, so actual expenditures will tend to fall below that theoretic maximum. Other things equal, actual expenditures on transaction resources will be positively related to the magnitude of the coordination problem.

Contracting to secure mutual gains consumes transaction resources that are scarce and costly to obtain. In the old law-and-economics tradition, transaction costs are assumed to be low in contracting situations, so that parties are able to gather all pertinent information and to assign all relevant risks.[17] Because the old law-and-economics tradition assumes individuals have perfect information, are completely rational, and face no impediments to entering transactions, "[i]t would be surprising if such superhumans were *not able* to manage their own affairs without the intervention of government."[18] As it happens, however, sometimes they are not.

The newer law-and-economics tradition emphasizes transaction costs even in contract (as opposed to "tort" or "stranger") situations. Because this tradition assumes individuals have imperfect information and limited rationality, and encounter substantial impediments in contracting, it would be surprising if such patently imperfect individuals were *able* to manage their affairs without the intervention of government. As it happens, in some cases, they do.

This discontinuity between "prohibitive" and "non-prohibitive" transaction costs is, of course, an analytic artifice begging for elaboration. The private and governmental controls that people craft depend on the relative size of the transaction costs involved. Because each of the three decision-making problems in any relationship involve unique hazards from imperfect information, the undifferentiated, generic treatment of transaction costs is analytically untenable as well.

17. Just think of the Coase Theorem and the long line of Chicago-style law-and-economics that sees itself as driven by Coase's insight that when transaction costs are low, individuals contract around inefficiencies. Thus, we have the identification of contract with low transaction costs. Coase himself did not commit the mistake of identifying contracting with low transaction costs.

18. Farber, *Contract Law and Modern Economic Theory*, 78 Nw. U.L. Rev. 303, 305 (1983).

2. *The Negotiation Phase: Concession Rationality*

Recognizing that contracting would increase efficiency, that it would generate benefits in excess of costs, is not a sufficient condition for contracting to occur.[19] Contracting requires that parties to the negotiations resolve the division problem, either directly by agreeing upon allocations of benefits and costs, or indirectly by agreeing upon a set of procedures by which these allocations are to be determined. The problem is not just the cost of establishing a set of feasible and acceptable outcomes. Even if that cost is nil, the *strategic* nature of the choice may induce a noncooperative outcome.[20] Strategy may require players to disguise their true intentions in pursuit of an agreement, moderating or exaggerating their demands based on their view of how each will respond to the other. Thus, failure to resolve the division problem can complicate the process of contracting even to the point of defeating it.

Returning to Figure Two, the division problem arises because the players have opposite preferences regarding where along the contract curve agreement should occur.[21] Expressed in bargaining theoretic terms, C_1, contract one, is player *A*'s *best-hope outcome* because it is the outcome that is (i) most preferred by *A*, (ii) no worse than disagreement for *B*, (iii) feasible, and (iv) enforceable. Similarly, C_2, contract two, represents *B*'s best hope. The players' best hopes correspond to opposite endpoints of the contract curve. When a *concession* is defined as agreeing to an outcome less preferred than one's own best hope, it is obvious that agreement requires concessions. Either one player makes all the concessions required for agreement by assenting to the other's best-hope outcome, or both players make concessions resulting in agreement at an intermediate point on the contract curve. If bargaining over the allocation of concessions fails, so too does contracting.

Intuitively, we recognize the problem of settling on a division of cooperative gains as endemic in human behavior and know that people resolve it when the conditions are right. Empirical

19. See McClelland & Rohrbaugh, *Who Accepts the Pareto Axiom? The Role of Utility and Equity in Arbitration Decisions*, 23 BEHAVIORAL SCI. 446 (1978).

20. *See* Coleman, *Market Contractarianism and the Unanimity Rule*, SOC. PHIL. & POL'Y, Spring 1985, at 69; Cooter, *The Cost of Coase*, 11 J. LEGAL STUD. 1 (1982).

21. Whereas mixtures between contracts one and two are assumed to be feasible in this game (hence, the C1C2 line), mixtures between other outcomes of this game are assumed not to be feasible. We adopt this convention to simplify the analysis.

studies confirm that standards of "fair division" sometimes guide rational agreement even in the absence of third-party enforcement. In particular, Kahneman, Knetsch and Thaler have shown that when unanticipated events induce unanticipated divisions, they do not necessarily threaten the economic viability of an arrangement.[22] In other words, individuals sometimes appeal to a sense of fairness to solve division problems when failure to reach agreement in division may jeopardize an opportunity for mutual gain. Laboratory experiments testing the Coase Theorem demonstrate as well that parties are able to secure jointly maximizing outcomes, though different methods of assigning property entitlements influence the division of the gains.[23] Other studies confirm (1) the importance of the status quo in choices over division rules, and (2) the heavier weight ascribed to losses than equivalent gains in evaluating outcomes.[24] In short, empirical studies suggest that players are often able to solve their division problem and point to some of the relevant factors in settling on particular divisions: namely, the allocation of initial entitlements, a sense of fairness, the relative disparity in weighting equivalent gains and losses, and so on.

Under a broad range of conditions, then, contracting parties settle on distributions of the gains from trade, which simply means that they allocate concessions. They also have in mind which among the available points on the contract curve they intend to *safeguard* by the terms of any contract. Put analytically, a necessary condition for agreeing to a contract is that its expected outcomes satisfy what may be termed the principle of *concession rationality*.[25]

Each of the formal models in the literature provides a distinct

22. *See* Kahneman, Knetsch, & Thaler, *Fairness and the Assumptions of Economics*, 59 J. BUS. 285 (1986).

23. *See* Hoffman & Spitzer, *Entitlements, Rights, and Fairness: An Experimental Examination of Subjects' Concepts of Distributive Justice*, 14 J. LEGAL STUD. 259 (1985).

24. *See* Frohlich, Oppenheimer, & Eavey, *Choices of Principles of Distributive Justice in Experimental Groups*, 31 AM. J. POL. SCI. 606 (1986); Kahneman, Knetsch, & Thaler, *Fairness as a Constraint on Profit Seeking: Entitlements in the Market*, 76 AM. ECON. REV. 728 (1986).

25. Formal theoretic accounts of bargaining have been proposed by economists, game theorists, social psychologists, and strategic analysts. *See* J. HARSANYI, RATIONAL BEHAVIOR AND BARGAINING EQUILIBRIUM IN GAMES AND SOCIAL SITUATIONS (1977); A. ROTH, GAME-THEORETIC MODELS OF BARGAINING (1985); O. YOUNG, BARGAINING: FORMAL THEORIES OF NEGOTIATION (1975); Binmore, Rubinstein, & Wolinsky, *The Nash Bargaining Solution in Economic Modeling*, 17 RAND J. ECON. 176 (1986).

meaning to the concept of concession rationality. No single point-specific solution to the bargaining problem has gained universal acceptance. But we are less concerned with predicting a specific distribution than with identifying the parameters that influence the choice of rules for making it. We want a model that applies to a broad range of contractual settings and incorporates fundamental principles universally accepted as affecting the relative bargaining power of parties.

The problem with many bargaining theories is that while they take account of the parties' relative bargaining strengths, they assume away many of the other problems that lead to bargaining failure, for example, uncertainty. Thus, they typically yield the result that bargainers will secure a cooperative division of the gains that reflects their initial relative bargaining strengths. This outcome is not surprising, but because of all the evidence of noncooperation (wars, strikes, etc.), these models are neither predictive nor descriptive.[26] Again, though all bargaining models view the relative costliness of conflict as affecting relative bargaining power, many do not take into account the parties' best hopes or aspiration levels, which influence the bargainers' willingness to incur costs in reaching agreement. That is inconsistent with a sizable body of experimental evidence indicating that aspiration level is positively related to bargaining power.[27]

In contrast, what we call *resistance theory* renders an explicit account of the conditions under which negotiations break down, treats aspirations as part of the decision making calculus, and describes the information rational contractors require to reach agreement. Thereby, it illuminates the conditions under which people will expend resources to contract.[28] As conceived in resistance theory, bargainers assess the relative strengths of their strategic positions based on the utility structure of the game, for example, based on the location of the disagreement point, on the location and shape of the contract curve, and on their risk and time preferences. The strength with which a bargainer strives to avoid concessions, termed his resistance, de-

26. *See* Cooter, *supra* note 18.

27. *See* S. BACHARACH & E. LAWLER, BARGAINING POWER, TACTICS, AND OUTCOMES (1981).

28. *See* Heckathorn, *A Formal Theory of Social Exchange: Process and Outcome*, in 5 CURRENT PERSPECTIVES IN SOCIAL THEORY 145 (S. McNall ed. 1984) [hereinafter Heckathorn, *A Formal Theory*]; Heckathorn, *supra* note 11.

pends on (1) the costliness to the individual of the concessions required by the agreement (the greater the concession cost, the greater will be the resistance to the agreement); (2) the costliness of conflict (an increase in conflict's cost increases the willingness to make concessions and diminishes resistance); and (3) the aspiration level (higher aspirations enhance resistance). The very existence of opposing proposals reveals conflicting aspirations. They establish concession limits and distributional expectations based on those assessments. Only outcomes in which those limits and expectations overlap satisfy concession rationality.

Formally, if D_i is any bargainer i's utility from disagreement (conflict); B_i is i's aspiration level or best hope—the enforceable outcome on the contract curve that he most prefers, or equivalently, the outcome he most prefers which is enforceable, feasible, and no worse than conflict for any other bargainer; and U_i is i's utility from a given outcome U, i's resistance to outcome U, $R_i(U)$ is defined as

$$R_i = (B_i - U_i)/(B_i - D_i). \qquad (4)$$

During negotiations, each bargainer assesses his own resistance against that of others, which takes into account everyone's strategic position. Under conditions of complete information, each will agree to an outcome only if the concessions it requires are at least matched by the relative concessions of others. On the assumption of equal rationality, each party will make equal relative concessions.[29] It is not rational to be exploited. Expressed in terms of resistances, this means that the bargainer will agree to an outcome if his own resistance to it would equal or fall below the resistances of others. Formally, where $R_i(U)$ is any bargainer i's resistance to outcome U, and $R_j(U)$ is another bargainer's resistance to outcome U, then that outcome lies in the agreement set of i, A_i, if

$$R_i(U) < R_j(U). \qquad (5)$$

Concession rationality requires that an actor's concession behavior fulfill this requirement. Resistance theory posits that in the presence of complete information, people exhibit concession rationality. Under conditions of complete information, rational individuals make equal relative concessions. When

29. This is also David Gauthier's view. *See* D. GAUTHIER, *supra* note 11.

information is incomplete, a bargainer will agree to an outcome if he judges it to be rational in that sense, that is, if his own resistance is matched or exceeded by the expected resistance of everyone else. That is, if *i*'s resistance to U is $R_i(U)$, and i's expectation concerning *j*'s resistance to U is $E_i(R_j(U))$, then the set of outcomes to which *i* would agree, his agreement set A_i, includes outcomes fulfilling the requirement

$$R_i(U) < E_i(R_j(U)). \qquad (6)$$

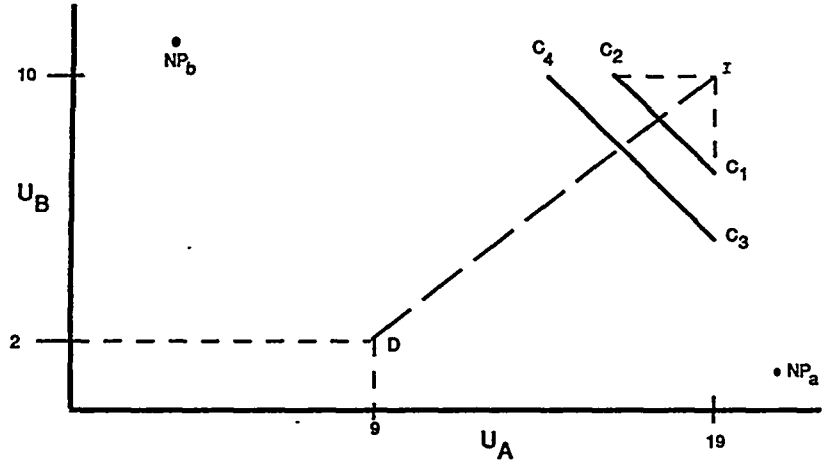
Of course, for an outcome to be agreed upon, it must lie in the agreement sets of each individual with the ability to block an agreement. For example, in a system of bargainers *A* and *B*, the outcome must lie in the intersection of sets A_a and A_b.

The implications of concession rationality for the outcome of bargaining can be illustrated graphically. Consider Figure Three. The outcomes when players' resistances are equal lie on the line connecting the disagreement point D (9,2), where each resistance equals one, to the *ideal point* I (19,10), a nonfeasible outcome where players simultaneously attain their best hope payoffs and resistances are consequently equal to zero. If person *A* exhibits concession rationality as defined in Equation Three, his agreement set lies on or to the right of the line ID; and if person *B* is similarly rational, his agreement lies on or above the line ID. Hence, if both exhibit concession rationality and they possess complete information, their point of agreement must lie on the line ID.

Resistance theory is one way of specifying the content of concession rationality. Concession rationality in turn expresses a condition of rational cooperation or rational contracting. Its domain is the division of the gains from cooperation or the parties' joint stakes in contracting.

The division problem can be more or less troublesome. The magnitude of the division problem in a particular case is a function of the discrepancy between the players' best hopes. If the individuals' best hopes exactly coincide, as in the *nondivisible* prisoner's dilemma game, the contract curve shrinks to a point, and agreement requires no concessions. As the contract curve lengthens, the required concessions increase. That in turn makes divisional bargaining an enterprise with higher stakes. Consequently, expending resources to enhance the strength of one's bargaining position becomes more rational, as do any

Figure 3: Equal Resistance Line



measures to minimize one's own concessions and to maximize those secured from others.

The *magnitude of the bargaining problem*, M_B, can be formally defined in terms of potential expenditures of transaction resources, as the *maximum proportion of the gains attainable from contracting that any rational contractor in the system could be motivated to expend on transaction resources to enhance bargaining power*. As thus defined, the magnitude of the bargaining problem is the ratio of the gain attainable from bargaining to the gain attainable from contracting. The former is the difference between the payoff from the individual's best-hope outcome, B_i, that is, the most preferred point on the contract curve, and the individual's *worst hope*, W_i, that is, the *least* preferred point on the contract curve, which is $B_i - W_i$. This is the maximum amount the individual could be rationally motivated to expend in an endeavor to augment bargaining power. Furthermore, recall that $B_i - D_i$ is the maximum gain attainable from contracting, so the maximum proportion of the gains from contracting that the individual could be motivated to expend on enhancing bargaining power is

$$M_{Bi} = (B_i - W_i)/(B_i - C_i) \qquad (7)$$

For example, in Figure One's system, the magnitude of player

A's bargaining problem is $M_{Ba} = (19 - 16)/(19 - 9) = 0.3$, and player *B*'s problem is $M_{Bb} = (10 - 7)/(10 - 2) = 0.375$.

The magnitude of the bargaining problem, M_B, faced by a *group* of actors is defined as the maximum problem faced by any member of that group, that is,

$$M_B = \text{Max}[M_{Bi}]. \qquad (8)$$

For example, in Figure One's system, $M_B = M_{Bb} = 0.375$. This expression describes the maximum proportion of the gains attainable from contracting that any rational bargainer in the system could be motivated to expend on transaction resources.

3. *Post-phase: Individual Rationality*

We noted above that in the non-divisible prisoner's dilemma, there is no bargaining over the gains from cooperation. The parties' best hopes coincide, and no concessions are required. That is why the prisoner's dilemma is best thought of as illustrating the problem of rational defection, not the problem of rational agreement. The payoffs from cooperation are set; no concessions are required. Once agreement is secured, however, the question remains whether it is in the interest of either or both parties to comply with it.

The defection problem reflects the problematic nature of mutual trust, owing to the presence in most contracts of burdensome provisions and potential loopholes. Frequently, an individual can gain by defaulting upon a contract, often at the expense of those who perform according to its terms. A prerequisite for contracting, then, is a system of enforcement with which to preclude or to deter noncompliance, or to compensate parties injured by others' noncompliance. Not surprisingly, debating whether negotiations are undertaken in "good faith" and carefully scrutinizing contracts for hidden loopholes are prominent features of virtually all contracting.

The compliance or defection problem can be expressed in terms of a third condition of rationality. A necessary condition for rational agreement to a contract is that its expected outcome satisfies *individual rationality*. Neither player will permit himself to be left worse off than the status quo, or disagreement point. That is, when U_i is individual *i*'s expected utility from participating in a contract, and D_i is *i*'s utility from disagreement, *i* is *individually rational* if

$$U_i \succeq D_i. \qquad (9)$$

With reference to Figure Three, player *A* prefers defection if point NP_a is to the right of the point on the contract curve at which agreement occurs, and player *B* prefers defection if NP_b is above the contract point. Player *A* would not agree to an outcome lying to the left of point D, such as point NP_b in which *B* free-rides, even though NP_b is jointly rational. Such an agreement would make *A* worse off than he would be were no agreement made, thus violating the individual rationality condition. Nor would player *B* accept any outcome below point D, such as NP_a, for analogous reasons. Hence, if both players are individually rational, neither will tolerate the other's free-riding. The outcomes of Figure Two's game that satisfy each player's requirement of individual rationality include the status quo point, D, and all of the points on the contract curve C_1; C_2. Rational parties will not agree to contracts they expect to make them worse off; thus, they must find a way to eliminate or to minimize the risk of defection. This is no easy task.

A defection problem arises if either player can gain from free-riding. The strength of the incentive to free ride depends on the relationship between each player's unilateral defection payoff and the payoff from points on the contract curve. In general, that incentive is strongest when the utility awarded by contracting is lowest. Thus, driving a hard bargain increases the incentives for others to defect from that contract's terms, and in consequence may be self-defeating. Notice, however, that in Figure One's system a contractor has some incentive for defection even if the agreement represents his best hope or most preferred contract. Every unilateral defection outcome gives him a payoff in excess of *any* cooperative outcome.

Described quantitatively, the *magnitude of the defection problem*, M_D, can be defined as the *maximum proportion of the gains attainable from contracting that a rational individual could be motivated to expend to secure the gains potentially available by defecting*. Recall that the defection problem arises because defection is more rewarding than cooperation. Let NP_i be individual *i*'s *payoff from free-riding*, the payoff awarded a unilateral defector. An actor's incentive to defect is then measured by the difference between that payoff (NP_i), and the payoff from contracting, a payoff that is minimal when the individual attains his worst hope, W_i. Thus, the individual's maximum possible defection incentive is

$NP_i - W_i$, indicating that he could be motivated to expend *up to* $NP_i - W_i$ for the privilege of free-riding with impunity rather than contracting. When the gain from defection ($NP_i - W_i$) is divided by the gains attainable from contracting ($B_i - D_i$), that yields the expression for the magnitude of the individual defection incentive M_{Di}. For any individual *i*, M_{Di} is

$$M_{Di} = (NP_i - W_i)/(B_i - D_i) \qquad (10)$$

For example, in Figure One's system, the magnitude of player *A*'s defection problem is $M_{Ba} = (22 - 16)/(19 - 9) = 0.6$, and player *B*'s problem is $M_{Bb} = (11 - 7)/(10 - 2) = 0.5$.

The magnitude of the defection problem faced by a group of actors is defined as the maximum problem faced by any member of the group, that is,

$$M_D = \text{Max}[M_{Di}]. \qquad (11)$$

For example, in Figure One's system, $M_D = M_{Da} = 0.6$. In sum, the magnitude of the defection problem[30] refers to the strength of the incentive to defect from contracts relative to the gains attainable from contracting.

To resolve the defection problem, each party must reduce the other party's incentive to defect. The power of the incentive to defect can be mitigated in several analytically distinguishable ways. Compliance can be made more rewarding, defection less rewarding, or opportunities to defect reduced or blocked. Of these, the second is the most common because the first tends to be more costly and the third tends to be impractical given the near impossibility of removing all opportunities for nonperformance. In short, no party will rationally agree to comply and to let the other party free ride. But since both parties have at least some incentive to free ride, each party has an incentive to deploy resources to insure the compliance of the other.

Individual rationality, then, requires that an agreement be *enforceable*, not just that an individual be protected against an outcome worse than the status quo.[31] To be an enforceable

30. Heckathorn & Maser, *Bargaining and the Sources of Transaction Costs: The Case of Government Regulation*, 3 J.L. ECON. & ORG. 69, 80 n.4 (1987).

31. At least in the case of cooperating to produce a public good, which can be studied as a prisoner's dilemma game, experimental evidence reveals cooperation rates significantly better when people expect an agreement to be enforceable as compared to when they receive money-back guarantees that they will be no worse off than when they started if the group effort fails. See Dawes, Orbell, Simmons, & Van de Kragt, *Organizing Groups for Collective Action*, 80 AM. POL. SCI. REV. 1171, 1183 (1986).

agreement, the parties must expect that each estimates a cost of violation exceeding the gain from unilaterally defecting. That is, no agreement on C_1, C_2 is enforceable without penalties sufficient to deter defection, termed the *force of agreement*.[32]

Viewed graphically, an enforcement system that penalizes defection displaces the defection points NP_a and NP_b toward the origin, making compliance more rewarding relative to defection. In Figure Three, for example, if each player faces a violation cost that makes him indifferent between defecting and his best-hope outcome, then no points on the contract curve will be enforceable. But if each faces a violation cost that makes him indifferent between defecting and the other party's best hope outcome, then the entire contract curve constitutes a domain of enforceable agreements.

In general, the greater an individual's defection incentive, the stronger must be the penalties that would succeed in making compliance rational. Further, the greater the incentive to defect, the stronger are the incentives for the individual to seek to evade or undermine an enforcement system. Put simply, the more a person wants to defect, the harder and more costly it will be to prevent him from doing so. Although it is not rational to accept a contract that is unenforceable, or one that gives others the opportunity to defect, making a contract enforceable requires expenditure of considerable resources. The greater the incentive to defect, the greater the resources required to prevent it.

C. *Summary of Rational Contracting*

The resistance solution to a bargaining game of complete information can be described in terms of the rationality conditions. Individual and joint rationality, which together comprise the classical notion of economic rationality,[33] together suffice to motivate contracting but not agreement on any unique contract. With reference to Figure Two, they restrict the outcomes of agreement to the portion of the welfare frontier called the contract curve, C_1, C_2. This contains, of course, many feasible outcomes. In classical economic theory, no choice among them can be said to be more or less rational than any other. The

32. *See* Heckathorn, *A Formal Theory*, *supra* note 28, at 153.
33. *See* J. HARSANYI, *supra* note 25, at 141-42.

choice among them cannot be a matter of rationality! Thus, in the usual forms of economic analysis, the choice among Pareto optimal (collectively or jointly) outcomes is said to be a matter of distributive fairness, not a matter of economics (or rationality).

The additional requirement of concession rationality, the signature of the bargaining theory approach we adopt, restricts that outcome to a point on the equal resistance line, ID in Figure Three, so the cumulative effect of these requirements is to specify the intersection of the contract curve and the equal resistance line. For bargainers A and B with complete information, the outcome of the bargaining U satisfies the expression

$$\min[R_a(U) = R_b(U)] \qquad (12)$$

Agreement and performance on a contract occur, then, if and only if it satisfies all three requirement for each party to the transaction. Taken together, then, these conditions are necessary and sufficient; they define a party's interests in a contractual relationship.[34]

Bargaining theory differs from the more common forms of economic analysis precisely by its commitment to a principle of concession rationality. This principle is aimed at explaining and defending some outcomes along the frontier as more rational than others. Concession or bargaining theory thus makes the division of the gains from contracting, that is, the distribution of the game's stakes, a matter of rationality. Unlike forms of economic analysis that set aside questions of distribution, rational bargaining theory takes the division problem to be a part of the problem of rational choice. As a consequence, concession theory not only can explain and defend outcomes of contracting as more or less rational depending on the way in which the gains are distributed; it can explain safeguards in contracting aimed at securing certain divisions, and failures in contracting as often resulting from failures to solve the bargaining or concession problem, or as owing to the high costs of safeguarding agreed upon divisions.

34. The conclusions reached here also hold in the n-person cases and in the dynamic context. We use the static one to simplify the analysis. *See* Heckathorn, *A Formal Theory*, *supra* note 28.

III. Safeguarding the Rational Contract

In the model we have just explicated, bargaining takes place sequentially (at least in logical space-time). First individuals search for potentially advantageous opportunites to cooperate, then they seek agreement on the gains, and finally they monitor compliance with the contract's terms. Each phase leaves plenty of room for contract failure. Thus, guarding against failure is rational—up to a point. That is, one does not want to spend more on preventing failure than failure costs in terms of foregone benefit. The important analytic point is that at least some expenditure of resources to guard against contract failure is rational for all players. We call this process of expending resources to prevent contract failure, "rational safeguarding."

The order in which actors safeguard their interests in contracting reverses the order in which they contract (again in logical space-time). In the divisible prisoner's dilemma, both parties have incentives to defect from unprotected agreements. If it is rational for player A to defect from an agreement, then it cannot be rational for player *B* to bargain with player A over the gains from trade, and *vice versa*. Bargaining without compliance is simply a waste of resources and is, therefore, irrational. If bargaining over the gains from trade is to be rational, the parties must be reasonably confident of one another's subsequent compliance. Thus, the defection problem must be resolved prior to pursuing a division of contract gains.[35] Similar considerations apply regarding the other phases of bargaining. Crafting safeguards to satisfy joint rationality is pointless unless the parties expect both the division and defection problems to be soluble. Early phase decisions are dependent upon expectations regarding decisions in a later phase; anticipating breakdown at a later phase may block affirmative decisions at a prior one.

Each party would prefer that the other bear the full costs of safeguarding. The parties in general cannot insist upon this preference. Concessions are rational, and parties can secure an agreement about distributing the costs of safeguarding. This "contract," that is, the contract over safeguards, has all the same conditions and pitfalls of bargaining over the gains from

35. *See* Kraus & Coleman, *Morality and the Theory of Rational Choice*, 97 Ethics 715 (1987).

trade. So in the complete rational contract, the parties bargain both over the costs of safeguarding and over the gains from trade.

Negotiations over safeguards in a contract comprise a series of nested subgames, corresponding to a type of sequential decision-making that Shubik terms "backward induction."[36] Here, the outcome of one game effects the potential payoffs of the next and issues are analyzed in the reverse of their ultimate behavioral order. Treating the divisible prisoner's dilemma in this way transforms it from a single game in which the defection incentive dominates, so contracting never gets underway, into two cooperative games.

The two cooperative games are then analyzed as follows. The first game involves negotiating over enforcement costs. In this game, we once again assume that the players command resures adequate to enforce an agreement, so that they need not call upon third-party enforcement mechanisms. (This assumption is crucial; otherwise, the account cannot proceed. For otherwise we will generate an infinite regress of nonenforceable contracts.) The only question at this stage—in this game—is, who shall bear which costs in solving the defection problem? If *this* bargaining problem is solved, then the second cooperative game is played. The players' mutual interest is to bargain over points on the contract curve only. The enforceable solutions to the second game therefore lie on the contract curve. Thus, the second bargaining game is over points on the curve.

The first, or enforcement, game is connected to the second, or division-of-the-gains game in three ways. First, solving the enforcement game is a necessary condition for playing the division game; second, any particular solution to the enforcement game will affect solutions to the division game. How much one is willing to concede in bargaining over the gains from trade may well depend on how much one has had to expend in creating safeguards against defection. Third, because they are both bargaining games, the theory of rational bargaining developed above applies to both. In principle there should be equilibrium solutions to the conjunction of these two games that satisfy the rationality conditions.

36. *See* M. SHUBICK, GAME THEORY IN THE SOCIAL SCIENCES: CONCEPTS AND SOLUTIONS (1982); *see also* T. SCHELLING, *supra* note 15; Heckathorn, *A Formal Theory*, *supra* note 28.

In general, party *A* will create a safeguard so long as the potential burden imposed on *B* to overcome it exceeds the cost to *A* of creating it; party *A* expects *B* to have a comparable incentive.[37] The equilibrium effect of following these strategies gives rise to an optimizing effect. When parties contract with one another, they bargain so as to minimize the sum of the costs players impose on each other and the costs they must bear to safeguard themselves. Under conditions of *complete information* both cooperative games are solved so that the following is true: a rational contract minimizes the sum of the costs the players impose on one another and the costs they bear to protect themselves.

A. *Safeguarding Against Uncertainty*

Problems in contracting arise when information is not complete, when instead actors are required to behave under conditions of uncertainty. Almost every contract dispute that winds up in litigation turns on a point about an incomplete contract; the traditional reasons for incomplete contracts are matters of information cost: 1) a contingency may be unforeseeable; 2) planning for every foreseeable contingency can be expensive; and 3) some contingencies may involve private information. Indeed, because a complete contract must specify a suitable mechanism for transmitting information to deal with contingencies, it can be particularly costly to devise. Therefore, actual contracts tend to be incomplete and subject to renegotiation.[38]

When bargainers possess less than complete information, failure to identify opportunities for gain or fear of outcomes worse than the status quo can prevent contracting from even getting off the ground. Once it does, agreement can still be blocked or the point of agreement may diverge from the contract curve's equal resistance outcome.[39] For example, if bargainers underestimate one another's resistances, they demand more concessions than the other will grant, and the result is

37. The comparisions here, as with those involved in making concessions, entail no invalid interpersonal comparisions of utility. The calculus for creating safeguards follows the calculus of resistance theory. In resistance theory, people are comparing concessions normalized with respect to each individual's stake in the game. Because the mathematical expressions take the form of the ratio of two utility differences, resistances are validly comparable across individuals. In this way, resistance theory captures a prominent feature of actual bargaining and actual equity judgments.

38. Tirole, *Procurement and Renegotiation*, 94 J. POL. ECON. 235, 239 (1986).

39. *See* Heckathorn, *A Formal Theory*, *supra* note 28, at 161-68.

conflict. Unresolved conflict does not entail that the rationality conditions are violated. Rather, divergences from the outcome predictable under complete information are predictable consequences of rational actors facing imperfect information. Bargaining with incomplete information can be both rational and unsuccessful.

If uncertainty exists, each party may benefit by manipulating information to create the appearance that conflict has become less costly to him or more costly to others. That makes his threats credible and signals an unwillingness to give in. Similarly, every bargainer possesses incentives to oversell his own preferred contract while denigrating the other's preferred contract. And each possesses incentives to invest in safeguards against precisely this sort of behavior because it threatens the divisions to which they would otherwise agree.

One consequence of this analysis is that the main reason for expending resources in contracting is to overcome some sort of uncertainty, uncertainty that threatens the equilibrium solution to which rational actors would otherwise agree. Because the possible sources of uncertainty differ in each phase of contracting, the logical character of the costs rational bargainers are willing to incur to reduce uncertainty differ as well.

People incur *search costs* because they are uncertain about the feasibility of alternative outcomes. Each bargainer wants information about the group's prospects. To resolve the coordination problem, information about group gains, or the opportunities to secure a Pareto improvement, is necessary. It helps to motivate contracting that satisfies the *joint rationality* condition.

People incur *bargaining and decision costs* because they are uncertain about the acceptability of alternative divisions. Each bargainer wants information about the agreement set. Securing adequate information about one another's resistances is necessary to create an agreement that satisfies the *concession rationality* condition.

People incur *monitoring costs* because they are uncertain about the enforceability of alternative outcomes. Each bargainer wants information about the consequences of the other party's defecting. In that sense, information about the force of the agreement is relevant to creating an enforceable contract that satisfies the *individual rationality* condition.

If an individual need only estimate *his* expected utility for the outcomes *possible* under a proposed contract against that of the status quo to ensure that its terms are no worse than not contracting, then the information required to judge outcomes by this test is the least stringent of all. But because each party needs to estimate the defection incentive and the force of agreement, then, in addition to the information needed to estimate joint and concession rationality, each must estimate NP_a and NP_b.

Significantly, each phase of contracting entails greater risks than the preceding one because, as an inspection of equations (1)-(12) reveals, more terms come into play at each step, so more information is required by succeeding calculations. That means more potential sources of uncertainty exist, more estimates must be made, each with a risk of error. In other words, the mathematics suggests that gathering information sufficient to fashion safeguards against defection is more difficult than securing information sufficient to safeguard against exploitive divisions, and so on. The more general point is that by incurring search, bargaining, and decision costs, individual contractors are able to mitigate *ex ante* risks; by incurring monitoring costs they hope to mitigate *ex post* risks. Thus, one can understand the object of contracting as the joint attempt to minimize the sum of the costs of uncertainty and of its avoidance, when uncertainty afflicts all three dimensions of rationality.[40]

40. This generalizes a formulation found in G. CALABRESI, THE COST OF ACCIDENTS 26-31 (1970), and implied in Cooter's analysis of Coasian versus Hobbesian perspectives on assigning liability, a seminal application of bargaining theory to legal issues, *see* Cooter, *supra* note 18. The Coasian perspective supposes the obstacle to cooperation is the cost of communicating, so courts need only enforce private agreements; Cooter recognizes that the strategic nature of the situation and the absence of a division rule may prclude cooperation, even when communication costs are zero, evoking a more intrusive court. However, Cooter's perspective does not count the cost of concessions as part of the strategic problem to which a court might attend. The Hobbesian perspective supposes that bargainers increase their demands on each other at every opportunity, defeating cooperation unless a third party exists to dictate the terms of a contract. Cooter recognizes that people may adapt their strategies to achieve an agreement, evoking a less intrusive court. He concludes that institutions such as markets serve efficiency without an extraordinarily intrusive state because a market eliminates the power of parties to threaten each other. But the proper standard of efficiency is generating optimal threats, not eliminating threats. Our analysis joins the Coasian and Hobbesian treatments of law, making the court's role contingent on contextual features of social relationships that defeat cooperation.

B. *Factors Affecting Uncertainty*

Different but often related contextual features influence the ability of decision makers to estimate the terms comprising the calculus of contracting; that is, they affect the amount and accuracy of the information that must be acquired, verified, communicated, or processed during the course of contracting.

First, as the *number of principal parties* to the potential contract increases, the number of lines of communication and the amount of information that must be processed during negotiation increases. Opportunities for joint gain can be obscured simply by the noise. Group size affects the defection problem because in larger groups an individual's defection tends to be less noticeable, weakening incentives for individuals to participate in sanctioning defectors.[41] Monitoring compliance in a large group is generally more difficult and more demanding of given resources than in a smaller group. Hence, contracting is riskier.

Second, as *heretogeneity among the principal parties* increases, the bargaining range—if one exists—and defection incentives increase. To be sure, differences of preference are required to provide a basis for exchange and contract, but the less interchangeable the actors, the more difficult the transaction. For example, the commonality among workers at particular job sites facilitiates collective bargaining with management. Only minor adjustments are required to adjust for individual differences in seniority, skill level, and work classification. By contrast, when each party to a contract possesses a wholly unique set of attributes and relations to each other participant, bargaining may prove impossible even in a quite small group. Any bargain ultimately struck will inevitably leave more people disgruntled and, therefore, will create higher, more disparate defection incentives than would an agreement among a more homogeneous assembly.

Third, as the *spatial dispersion* of the group increases, communication costs increase. Bargaining and enforcement systems both require communication. In geographically concentrated groups, oral communication and incidental observations of behavior may suffice, but linking a dispersed group with equally adequate communication between each pair of individuals is

41. *See* M. OLSON, THE LOGIC OF COLLECTIVE ACTION 45 (1965).

technically more difficult. Conversely, improvements in the technology of communication, holding dispersion constant, reduce communication costs, so transaction resources go further.

Fourth, as the *temporal distribution* of the costs or benefits at issue in the transaction increases, they become more difficult to detect and control. For example, delayed defection costs impede monitoring because the adverse consequences become apparent only long after the fact. Similarly, delayed benefits hamper divisional bargaining because bargaining to allocate anticipated gains may appear to be an exercise in wishful thinking.

Fifth, and closely related, as the *level of acceptable risk* decreases, monitoring problems increase. If people engaged in contracting for the sheer thrill of it, then even expending resources in search of opportunities for gain might appear counterproductive. But in classical economics and game theory, the expected utility of a prospect is the product of its probability and utility. An actor who is rational in that sense is indifferent, for example, between the certainty of losing $10, a 1/10 chance of losing $100, and a 1/100 chance of losing $1,000. Yet such outcomes are not equivalent in their implications for contracting. In contrast to defection that imposes a certain cost, "defection" that merely creates a risk of damage can remain undetected unless actual harm occurs. Monitoring is especially difficult when defection results in a very small risk of grave damage (analogous to the 1/100 chance of losing $1000), because only a tiny portion of defections actually impose damage. Just as the absence of damage does not imply that no defection occurred, the presence of a damage does not necessarily prove defection. Risk is simply endemic. That is why so much contract litigation involves assigning liability in the case of an unforeseen contingency that affects the ability of one party to perform.

Sixth, as the *nontransferability of costs and benefits* increases, negotiating becomes more intractable. Bargaining determines how benefits and costs will be allocated, so it requires that at least some benefits or costs be transferable. The problems of quantifying and intersubjectively verifying nontransferable benefits and costs underlie the distinction between fungible and unique goods that has been used, for example, to justify

the choice between damages and specific performance in contract disputes.

Seventh, as *instability* increases within a relationship, more transaction resources are required to secure rational outcomes. The best way of understanding how instability increases costs is to understand how stability reduces them. Because decisions themselves convey information about the risks of interacting, frequent and consistent decisions reduce the incentives to expend transaction resources on searching and bargaining over acceptable divisions. Moreover, stability facilitates developing internal systems of enforcement with which to deter defection. For egoists in repeated plays of the same prisoner's dilemma game, cooperation rather than defection can become optimal because defection would disrupt a mutually rewarding pattern of cooperation.[42] If the short-term gains from defection are consistently offset by larger long term losses, a stable pattern of cooperation emerges.

C. *The Rational Expenditure of Transaction Resources*

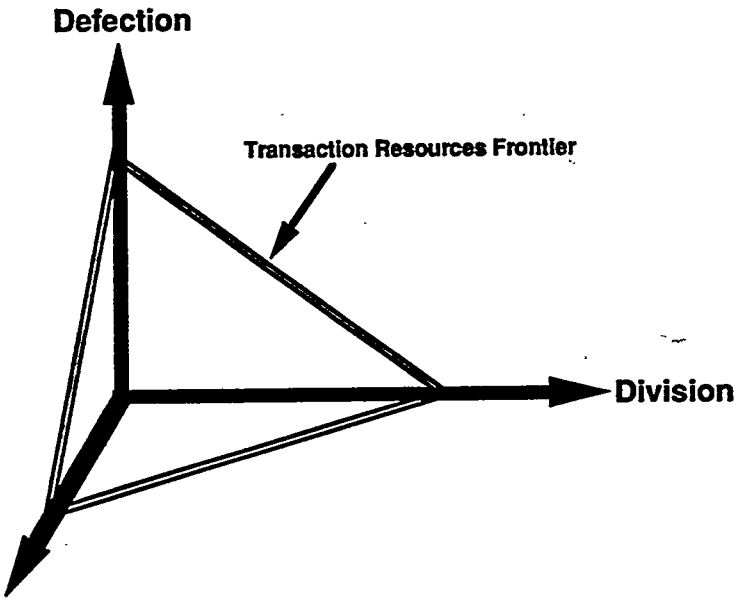
This is a good time to recap the analysis to this point. (1) Rational contractors seek to create mutually advantageous, enforceable agreement. (2) Doing so requires that they satisfy three independent rationality conditions: joint, concession and individual rationality. (3) These rationality conditions correspond to three phases in the contract process and enable the parties to solve three problems of rational choice: (a) the pre-phase coordination problem (joint rationality), (b) the negotiation-phase division problem (concession rationality), (c) the post-phase compliance problem (individual rationality). (4) A process of rational bargaining can satisfy these conditions but still fail to reach fruition in virtue of uncertainty deriving either from incomplete or imperfect information, or from potential defection. (5) Consequently, it will be rational for parties to create safeguards against contract failure. (6) Creating safeguards requires parties to incur three distinct kinds of cost corresponding to the phases in contracting: (a) search costs (pre-phase), (b) decision costs (negotiation phase), (c) monitoring costs (post-phase). (7) The magnitude of these costs will depend on contextual factors shaping the extent of uncertainty

42. *See* R. AXELROD, THE EVOLUTION OF COOPERATION 174 (1984).

under particular circumstances. (8) In general, the magnitude of uncertainty is greatest in guarding against defection, less great in securing a division and least pressing in safeguarding against coordination failure. (9) Rationality requires that crafting safeguards proceed in the opposite temporal direction from contracting corresponding to the general magnitude of risk of failure. Because the risk of defection dominates in the nondivisible prisoner's dilemma, uncertainty about compliance is greatest and, consequently, crafting safeguards against defection is most pressing. (10) The process of creating safeguards can itself be modeled as a rational bargain over the costs of safeguards. The costs of safeguarding depletes transaction resources.

The capacity of the contractors to employ their own resources to reduce uncertainty and create safeguards can be represented graphically. Figure Four describes the types of

Figure 4: Transaction Space Diagram



interactions to which contractual arrangements may be matched in the form of a *transaction space diagram*. The vertical

axis represents the magnitude of the defection problem. The horizontal axis represents the magnitude of the dividsion problem. And the axis perpendicular to both of these represents the magnitude of the coordination problem.

When a transaction lies near the origin in Figure Four, so that the problems are quite minor, the burden placed upon transaction resources is minimal. In transactions at increasing distances from the origin, indicating that the problems of identifying prospects, of bargaining or of defection are more major, the availability of transaction resources becomes more problematic; the farther any transaction lies from the origin, the greater the transaction costs required for contracting.

In contexts in which the seven factors affecting uncertainty are *favorable* to contracting, only modest resources are required to make contracting possible. For example, small residential groups such as nuclear families possess sufficient endogenous transaction resources with which to develop exceedingly complex systems of mutual understandings. Similarly, conditions in the most hospitable region of transaction space (that is, the area close to the origin) correspond rather well to those identified in any introductory economics text as conducive to private exchange in perfect or near perfect markets. Even in the (otherwise) most inhospitable regions of transaction space, that is, far upward and to the right of the origin but still within the frontier, ingenious safeguards evolve, such as "exchanging hostages" and giving collateral,[43] where people arrive at and enforce contracts independently.

In contexts where the factors affecting uncertainty are unfavorable to contracting, the parties' transaction resources quickly become exhausted. The worst case arises when members of a large, geographically dispersed group with diverse interests consider negotiating an arrangement in which the benefits and costs are delayed, nontransferable, and laden with risk. Locating a national nuclear waste storage facility is an example. Here, the transaction resource frontier will lie close to the origin, indicating that even slight concern over the feasibility of the alternatives or modest division or defection problems exceed the group's ability to contract independently.

43. *See* Kronman, *Contract Law and the State of Nature*, 1 J.L. ECON. & ORG. 5 (1985).

IV. Third-Party Intervention

A. *The Preference for Endogenous Transaction Resources*

We need not presume that a forum external to the original setting of a contract—notably, authoritative experts like judges operating under the auspices of the state—will be more efficacious than private ordering in resolving disputes. This presumption, termed "legal centralism," informs much of the law and economics tradition.[44] That courts or other jurisdictional bodies are necessary to the very idea of contract and are thereby presupposed by the concept itself may simply be an unwarranted theoretical assumption. It does not follow from anything in the analysis presented to this point. To be sure, by assuming that courts exist and stand prepared to enforce whatever agreements private parties make, such a view isolates the problem of breach from those of cooperation and division. In doing so, however, it misleads. For tradeoffs are inevitable among all three problems in contracting. Moreover, judges attempting to make decisions in accord with the theory are denied insights about the constraints rational actors would want on the judges as third-party interveners. Private parties—including social scientists—may find judicial decisions less coherent. Indeed, the resource efficiency of decisions motivated by the paradigm is put in doubt. On grounds of theory, prediction, and policy, the presumption should be struck down in favor of a more realistic one.

Third-party intervention must be explained, not assumed. And it is more plausibly assumed if we start out presuming that people are never without some endogenous transaction resources with which to contract. That means they do not always rely upon or even want a third party to secure agreements.

Endogenous resources, however, are finite. The points in transaction space at which private parties exhaust these resources define what we term the *transaction-resource frontier*. The frontier is simply a way of visualizing the limits to private settlement and the reasons for involving a third party. Attainable gains are lost when contextual features place transactions beyond the frontier and block contracting. That provides an in-

44. *See* O. Williamson, The Economic Institutions of Capitalism (1985); Galanter, *Justice in Many Rooms: Courts, Private Ordering, and Indigenous Law*, 19 J. Legal Pluralism 1 (1981); Llewellyn, *What Price Contract? An Essay in Perspective*, 40 Yale L.J. 704 (1931).

centive for parties to the transaction to seek third-party intervention. When transactions lie outside the transaction-resources frontier, principal parties tend to seek third-party support.

A third party can facilitate contracting in any of three analytically distinct ways. First, it can help to resolve the coordination problem by providing *exogenous transaction resources* to augment the endogenous transaction resources already present in the relationship. If, for example, communication channels are poor, owing to the large number of parties or their geographic dispersion, the centralized channels and *information-processing services* provided by a *mediating* third party may well prove more efficient. Sometimes a mediator recognizes opportunites for mutual gain or audits the status quo more effectively than the principals. Described graphically, this type of intervention moves transactions inside the transaction-resources frontier, or in effect increases the region within which contracting among the principal parties becomes possible. It need not entail granting discretion to the mediator to allocate the gains by defining the terms of an agreement or to enforce one by punishing breach.

Second, third parties can help to resolve the division problem by providing *division services*, for example, a *coalition-building* or *arbitrating* third party may be granted discretion to allocate the gains under the contract, or merely to narrow the range of divisions possible under the contract. Described graphically, this moves the transaction leftward in transaction space, closer to the origin where conditions for contracting are more favorable. It need not entail granting discretion to the arbiter to enforce an agreement, but arbiters, like mediators, need to be a central agent in processing information.

Third, third parties can help to resolve the defection problem by providing *enforcement services*: for example, a *policing* third party may be granted discretion to punish defectors so as to increase the force of contractual agreements. Described graphically, this moves the transaction downward in transaction space, again closer to the origin. It may not entail granting the enforcer discretion to design the terms of an agreement, but to monitor behavior an enforcer needs centralized communication channels like a mediator, and in applying the force of

agreement across disputants, the enforcer's judgments may well involve arbiter-like divisioned responsibility.

The existence of finite resources and the need sometimes to expend more than what the parties have available to them creates an incentive for both parties to seek outside help in making and securing contracts. Intervention by a third party, however, may be as problematic as it is promising. First, intervention by a third party complicates the transaction by creating a new contracting problem between it and the principal parties. An n-person game becomes an n+1 person game. The more extensive the intervention, the more powerful the third party can become vis-a-vis the principals.

The third party creates a new coordination problem. The process of searching for a suitable third party and negotiating the terms of its performance is costly. Improperly crafted third party services may prove redundant or unnecessarily intrusive. The greater the intervenor's role in processing information and forging communication channels, the greater too becomes the potential asymmetry between the intervenor and the principals. That can impede the principals' efforts to monitor it as well as each other. In short, the principals may not find it worthwile to involve a third party even when it is a prerequisite to contracting.

Intervention is likely to create a new division problem. How are the residual gains from intervention to be allocated among the principal and third parties? Again, the answer depends on their relative bargaining power. The power of the principals depends on how well they can effect divisions before the intervenor becomes involved. But the more extensive the intervenor's role in determining how contractual gains will be divided, the greater its potential to seize a larger than anticipated share. Greater too is the potential for the intervenor to become embroiled in partisan disputes among the principals and to empower some at the expense of others.

Intervention also creates a new defection problem. The outside party may fear that the principal parties will default on payments after services have been rendered. Alternatively, the more extensive the intervenor's role in establishing enforcement, the greater its potential to punish exploitatively. Indeed, a third party's special access to and control over information

makes more difficult the principal parties' problem of preventing its defection by fraud or misrepresentation.

For these reasons, third-party intervention will always strike the principal parties as potentially more threatening than relying on *equivalent* endogenous resources. The implication is that people will prefer using endogenous resources not only because they tend to be less costly, more accessible spatially and temporally, and more readily mobilized than functionally equivalent resources that might be provided by a third party, but also because these resources are less burdened by risk. Moreover, having maximum involvement in shaping the contract helps ensure the principals that it takes efficient account of their preferences and so strengthens their incentives to honor its terms. Studies of arbitration, for example, show that bargainers who succeed in reaching agreement are more likely to honor it than are those who fail and have one imposed by an arbitrator. Finally, even under the simplest conditions, contracting with a third party is asymmetric because the original parties, being more numerous, must bargain among themselves first.

Many of the problems of third-party intervention can be mitigated by competition among providers of the service. Competition gives principals an alternative and, thereby, a safeguard. Thus, it can reduce their bargaining problem and their fear of exploitive mistreatment. This is an important point, because it gives analytic plausibility to suggestions that under conditions in which it is otherwise particularly difficult to constrain a third party, competition among mediators, arbiters, and enforcers may be preferable to a state monopoly on power.[45]

Still, establishing and maintaining a mechanism for third-party intervention is no mere technical exercise by which deficiencies in endogenous transaction resources are corrected. Rather it can be at least as conflictive and politically charged as private contracting. It, too, can fail. Thus, parties have incentives to avoid third-party orderings, such as courts provide, and instead to devise private orderings.[46]

45. *See* Barnett, *Pursuing Justice in a Free Society: Part One—Power vs. Liberty*, CRIM. JUST. ETHICS 50 (Summer-Fall 1985).

46. *See* Galanter, *supra* note 44.

B. *When Only Intervention Will Do*

The existence of uncertainty sufficient to threaten contract failure does not provide a sufficient reason for the parties to call upon third-party intervention. Only when endogenous transaction resources are depleted do the parties have sufficient reason to pursue outside intervention. As we demonstrated above, third-party intervention can create costs in excess of gains. Only if the endogenous resources of the parties are inadequate *and* the expected costs of third-party intervention do not exceed expected gains, would it be rational for contractors to require third-party intervention.

Figure Four depicts the range of cases in which safeguarding against contract failure requires the parties to consume transaction resources.[47] Type I cases fall within the frontier where between them the parties possess adequate resources to resolve whatever problems they face. Moving outward along each axis, endogenous resources prove to be increasingly inadequate. In type II cases, the parties possess internal resources sufficient to solve division and defection problems, but lack resources to identify opportunities for coordination. In type III cases, the parties possess internal resources adequate to identify feasible contracts and to solve the division problem, but are unable by using their own resources to solve the defection problem. In type IV cases, the parties possess internal resources sufficient to solve their defection problem, but are incapable on their own of identifying or solving the division issues. Off the axes, we find a universe of other cases in which the principals in varying degrees lack the resources to resolve combinations of these problems.

This model suggests that we should find that several different types of institutional arrangements emerge in contracting. First, there will exist cases in which private parties are able to

47. The axes and frontier correspond in part to a classification system described in Ellickson, *A Critique of Economic and Sociological Theories of Social Control*, 16 J. LEGAL STUD. 67, 69-71 (1987). Ellickson sees administering positive and negative sanctions as involving rules that divide human behavior into three categories: (1) good behavior triggers rewards; that can have something to do with doctrines encouraging concession-making as well as trust; (2) bad behavior triggers punishment; his concern here is clearly with doctrines discouraging defection; and (3) ordinary behavior that warrants no judicial response; this corresponds to our type I situation where parties have sufficient endogenous resources. As he put it, "The prevalence of tripatite systems is a clue that rulemakers are attuned to an overarching goal of minimizing costs, including administrative costs." *Id.* at 71.

solve their problems without recourse to the intervention of third parties. In fact we find such institutions. The best example is the competitive market. In the market parties are engaged in bilateral agreements, discrete in time and place. A governmental enforcement mechanism is not necessarily a precondition for exchange; self-enforcing convention—sometimes called customary business practices—can work just as well. Markets provide ready sources of alternative exchange opportunities that can be sufficient to safeguard against one party's defecting *before* either performs on an agreement. Without resorting to violence or invoking third-party intervention, private parties can depend on reputational effects and devices like hostage-giving to safeguard against the risks of defection *after* one party acts in reliance on a promised performance.

Transactions along the coordination axis beyond the transaction-resource frontier pose a risk of joint failure sufficient to exhaust the parties' resources for identifying opportunities for mutual gain; that discourages exchange. The simplest convention, like drivers slowing down on approaching an intersection and stopping to wave a crossing vehicle through, break down. More densely settled areas and a more heterogeneous population of drivers will strain the convention, pushing the risks of motorized travel to the point where people begin to forgo its benefits or endure increasing costs. Someone can reduce the strain simply by setting a rule, almost any rule: when two vehicles approach an intersection simultaneously, the vehicle on the *right* proceeds first; where traffic density makes simultaneity increasingly expensive and variable to judge, install a traffic signal.

Contract law has, for example, the mailbox rule: an offeree has power to accept and close a contract by mailing a letter of acceptance, properly stamped and addressed.[48] Little economic justification can be found to support dating the contract from the mailing of the acceptance rather than from its receipt. Its economic justification can be found in the market-expanding properties of having a rule.[49] Like trade associations in various industries that develop consensus standards for product attrib-

48. *See* A. CORBIN, CORBIN ON CONTRACTS 124 (1952).

49. "One of the parties must carry the risk of loss and inconvenience. We need a definite rule; but we must choose one. We can put the risk on either party; but we must not leave it in doubt. The party not carrying the risk can then act promptly and with confidence in reliance on the contract; the party carrying the risk can insure against it if

utes so as to expand the total market for their products, the court expands the resource frontier so that private parties will engage in more transactions.

Beyond the frontier along the division axis, the participants primarily lack resources with which to solve the division problem. The parties would not get to the division problem without having identified an opportunity for productive exchange. Solving the defection problem is less significant, either because of ample internal enforcement resources or because incentives to defect are comparatively weak.

Some scholars have noticed the significance of the division problem in contract doctrine. But almost all of these scholars have confused the rational division problem as a matter of private law with a social or public theory of "fair distribution." For example, Farber suggests that contract law has a mandatory risk sharing system, a social safety net, and it is difficult for parties to bargain around it.[50] Thus, although freedom of contract means the power of parties to allocate risks between themselves, some contract rules reveal a countermanding principle of loss spreading, for example, rules against penalty clauses and warranty disclosure for personal injury to prevent catastrophic losses to one party. Similarly, Dalton has claimed that doctrines such as quasi-contract, duress, and unconscionability police the limits of acceptable bargains by private parties in the name of social (public) norms of fairness.[51] And Cohen claims that court adjudication supplements an original contract as a means of distributing gains and losses from unanticipated events. In this view, contract law consists of rules by which the courts accomplish this according to the equities of such cases. That follows not from the agreement between individuals but as a way of enforcing some kind of distributive justice within the legal system.[52]

These characterizations of the distributive dimensions of contract law may go too far. Our model implies that when courts impose distributive schemes on the parties, their doing so is compatible with the interests of the parties in the contract.

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he so desires. The business rule throwing the risk on the offeror has the merit of closing the deal more quickly and enabling the performance more promptly." *Id.* at 126.

50. *See* Farber, *supra* note 18, at 336.

51. *See* Dalton, *An Essay in the Deconstruction of Contract Doctrine*, 94 YALE L.J. 999, 1001 (1985).

52. *See* M. COHEN, LAW AND THE SOCIAL ORDER 101-02 (1967).

No appeal to a global concern for distributive fairness, therefore, is necessary to understand or to justify a court's willingness to impose a distribution of risk among the parties. The legitimate exercise of that authority is restricted to the domain of outcomes the parties would have bargained within, and not to the set of outcomes that would be preferable from the point of view of a principle of social justice or social insurance. However, to the extent that the court, acting as an arbiter, seeks to implement a doctrine likely to resolve a wide range of division disputes efficiently, it may turn to widely accepted principles of social justice for guidance on the grounds that those principles themselves represent an evolved, rational or efficient solution to a wide range of division problems.

Transactions beyond the frontier along the defection axis indicate the defection problem is intractable internally but the cooperation and division problems are soluble. Parties here have relatively abundant internal bargaining resources but deficient internal enforcement resources. Intervention therefore takes the form of an externally applied enforcement system that moves the transactions downward, inside the frontier. Within the constraints of that system, individuals retain control over the terms of the contracts they enter.

The features that make a market such an attractive governance system—anonymity, sponteneity, disaggregated decisions adaptive to local circumstances—exacerbate the endemic risks of defection. Classical economists at least since Adam Smith have foreseen a productive role for a centralized enforcing agent. If third-party intervention diminishes ex post risks, people are freer to expend resources ex ante on searching for and reaching agreements that satisfy joint and concession rationality. Hence, common-law, judicially crafted safeguards that penalize contract breach are widely regarded as promoting economic efficiency.

Of course third-party safeguards designed primarily to reduce the probability of defection can influence the concession rationality of private decisions. That is because the remedies available under contract cannot escape dividing the residual risks of social intercourse and imposing different burdens of proof on the affected parties when one defaults.[53]

53. For examples, see the essays in THE ECONOMICS OF CONTRACT LAW (A. Kronman & R. Posner eds. 1979).

In areas of transaction space away from an axis and outside the frontier, the internal deficit of transaction resources is more profound. Here, assistance is required in solving a combination of problems that afflict contractual relationships. Indeed, even if in absolute terms a relationship is richly endowed with transaction resources, it is virtually assured of falling farthest from the three axes when all of the contextual features we identified impose large obstacles to contracting. Consequently, the degree of third-party intervention is greater because the third party must not only enforce contracts but also specify their terms and bring contractors to the bargaining table.

V. Implications for Contract Law

Our theory implies the following about contractual relationships: (1) not every effort to contract in the absence of law will succeed; (2) contract failure can result from a failure to solve problems of either (a) coordination, (b) division or (c) defection (compliance); (3) these problems are in principle solvable by rational parties negotiating with complete information; (4) contract failure is, therefore, best thought of as owing to some form of uncertainty; (5) parties to an agreement seek to reduce uncertainty by expending endogenous resources; (6) contract failure in the absence of law results when these efforts at safeguarding are inadequate.

That implies the following about law: (1) law as a means of safeguarding can not, therefore, be assumed by a theory of contract, but must be explained instead; (2) the best explanation of it is that law is rational for contractors only if (a) it provides exogenous transaction resources that are necessary to insure a successful contract, and (b) the benefits of appealing to law to enable contracting exceed its costs. (3) Once law is in place, however, it is less costly for individuals to appeal to it to help resolve their contractual disputes than it would have been for them to *create* law for these purposes. (4) In reviewing cases in contract to understand or to criticize developing legal rules, we should inquire into whether uncertainty in coordination, division or compliance is the source of contract failure. We want to know whether the parties are in court because they lack sufficient search, negotiation or monitoring transaction resources. Then we can determine what kind of legal role the court is being asked to play: mediation, arbitration, policing, or all three.

A full rational-choice theory of contract law will demonstrate how different cases can be analyzed as falling into all three categories and the conditions under which rational default rules will call for intervention by courts. (5) The rationality of legal rules, from the point of view of this theory, will not depend on their abstract rationality or efficiency, but on their rationality in the context in which they are to apply.

To this point we have identified the phases of contracting; three associated conditions of rationality that must be satisfied if contracting is to be rational; three related problems rational actors may face in securing a rational contract; the safeguards—endogenous and exogenous—available to protect against contract failure; and the factors that affect the nature and scope of the transaction cost problem. If we are correct, many cases or doctrines in contract law can be assessed as rational responses to problems of coordination, division and defection, corresponding to the three axes defining the transaction resource space. Our long range ambition is to demonstrate the power of the theory in each of these areas where courts have been asked to serve the function of providing exogenous resources.

In this essay, having set forth the general theory for the first time, we attempt a more modest illustration of its relevance. Thus, we take up the role a court might be asked to play in solving coordination problems by playing what we have called a mediating role. In doing so, we analyze in detail a famous case in contract law, *Laidlaw v. Organ*,[54] which in most other accounts is seen primarily as a case creating a property right in information unencumbered by a duty to disclose—a right lauded by proponents of economic efficiency. Contrary to prevailing wisdom, we argue that the court's decision is best understood as serving a coordination function. The decision promotes efficiency, not because a property right in information is efficient, but because the court's authoritative pronouncement reduces uncertainty and provides salience. Thus, we choose the disclosure issue as it arises in *Laidlaw v. Organ* to illustrate both how our theory leads one to think about cases *and* how it may lead to answers different from those suggested by traditional economic analysis.

54. 15 U.S. (2 Wheat.) 178 (1817).

A. *Coordination, Search, and Disclosure*

Nothing could be more fundamental to the notion of a rational bargain than the behavioral presumption that decision makers calculate the relative benefits and costs of alternative contracts predicated upon available information. Because information is costly, it follows that decision makers invest in information to refine their expectations, or in other words, to safeguard themselves. The efficiency of these investments in mitigating risk is always a private and a social concern. It can become a legal concern when one party knows or has reason to know that another is in error about information material to the calculation. When does a contracting party have a duty to disclose, failing which the other party will be excused from performance?

According to Kronman,[55] the nondisclosure doctrine the courts have crafted encourages socially efficient contracting by creating a property right in information. People may retain the benefits of their efforts to secure information relevant to productive exchange opportunities, except in circumstances in which they would have come by the information without effort. When they can come by the information without effort, a disclosure requirement would not reduce the incentive to produce it, and so might not be inefficient. In cases of mistake and disclosure, this argument holds, the court has been called upon as a third-party enforcement agent and it has done so in a way that is at least consistent with the principle of economic efficiency.

Kronman is surely right about the incentives that this doctrine can give individuals to invest in information: "One effective way of insuring that an individual will benefit from the possession of information (or anything else for that matter) is to assign him a property right in the information itself—a right or entitlement to invoke the coercive machinery of the state in order to exclude others from its use and enjoyment. The benefits of possession become secure only when the state transforms the possessor of information into an owner by investing him with a legally enforceable property right of some sort or other."[56]

The more secure the right to information, the more an indi-

55. Kronman, *Mistake, Disclosure, Information, and the Law of Contracts*, 11 J. LEGAL STUD. 1 (1978).
56. *Id.* at 14.

vidual will be inclined to invest in producing it. The *social* as opposed to the *individual* benefits of such a property right, however, are not as obvious, nor is the distinction between information that results from deliberate search and that which has been casually acquired necessarily decisive in establishing the economic efficiency of the appropriate legal doctrine.

To see where Kronman's argument goes awry, consider the case that is central to his analysis: *Laidlaw v. Organ*. Kronman's recitation of the pertinent facts is illuminating. Organ, a New Orleans commission merchant, had been bargaining with Francis Girault of Laidlaw & Co., also commission merchants, to purchase 111 hogsheads of tobacco. Early in the morning of February 19, 1815, Organ received news that the Treaty of Ghent had been signed, formally ending the War of 1812. Organ obtained the news from a Mr. Shepard, who had a financial interest in the transaction with Laidlaw and whose brother was one of three gentlemen who brought the news from the British fleet. Before 8 A.M., when the news would be made public in a handbill, Organ called on Girault to consummate the purchase. Girault asked "if there was any news which was calculated to enhance the price or value of the article about to be purchased"; the record is not clear on Organ's response other than Laidlaw's attorney alleging "the vendee was silent." Nevertheless Girault and Organ entered into a contract.

The price of tobacco quickly rose by thirty to fifty percent as news of the treaty circulated, signalling an end to the naval blockade of New Orleans and the resumption of exporting. Kronman reports that Laidlaw retained possssion of the tobacco, but the court record indicates that he first transferred it to Organ, then recaptured it by force. In any case, Organ then brought suit for damages and to block Laidlaw from otherwise disposing of the tobacco. The trial judge evidently directed a verdict in Organ's favor, deciding from the testimony that no fraud occurred. On appeal before the Supreme Court, Laidlaw's attorney argued, among other points, that fraud was a matter for the jury to decide.

The Court agreed, reversed the judgment, and remanded with directions for a new trial. Other than noting that Organ's silence may have been fraudulent, Kronman puts aside questions of fraud. He focuses on the *dictum* rather than the holding in the Court's opinion, delivered by Chief Justice Marshall.

Generally regarded as an accurate statement of the law, it reads as follows:

> The question in this case is, whether the intelligence of extrinsic circumstances, which might influence the price of the commodity, and which was exclusively within the knowledge of the vendee, ought to have been communicated by him to the vendor? The court is of opinion that he was not bound to communicate it. It would be difficult to circumscribe the contrary doctrine within proper limits, where the means of intelligence are equally accessible to both parties. But at the same time, each party must take care not to say or do anything tending to impose upon the other.[57]

The attractiveness and subsequent longevity of Marshall's opinion derives, in Kronman's view, from its consistency with the principles of economic efficiency. It gives contracting parties incentives to get valuable information to the market as quickly as efficient investment in producing knowledge permits. Indeed, "[t]he greater the likelihood that . . . information will be deliberately produced [acquired at a cost that would not have been incurred but for the likelihood that the information in question would actually be produced,] rather than casually discovered [by chance], the more plausible the assumption becomes that a blanket rule permitting nondisclosure will have benefits that outweigh its costs."[58] In addition, the administrative costs facing the courts in crafting exceptions are lower compared to the costs of imposing limits on a blanket rule creating a duty to disclose. In sum, a rule of nondisclosure is productively efficient, and a rule of disclosure is too costly to administer.

It is not obvious, however, that a property right in information is productively efficient. Moreover, what is relevant in determining the efficiency of the rule is not the manner in which the information is obtained (casually or deliberately), but its incentive effects (productive or redistributive). Consider, in this regard, an argument by the economist Hirshleifer.[59] Central to Hirshleifer's account is the distinction between foreknowledge—predicting events that nature will autonomously make known to all—from discovery—recognizing something that

57. *Laidlaw*, 15 U.S. (2 Wheat) at 195.

58. Kronman, *supra* note 55, at 18.

59. Hirshleifer, *The Private and Social Value of Information and the Reward to Inventive Activity*, 61 AM. ECON. REV. 561 (1977).

possibly already exists, though hidden from view until human action extracts it. Information of either sort has value only if it can affect action. From an individual's perspective, the value of new information and hence of investing in generating it, derives from *technology*, gains from allocating resources more efficiently, and *distribution*, wealth transfers that follow from price changes. In the case of technology, information makes the "pie" larger and thus increases ex ante each person's potential share. In the case of distribution, information does not increase the pie's size, only the shares of those who have the relevant information..

From society's perspective, the consequences of technological information are largely salutary, while those of redistributive information are not. As Hirshleifer puts it, "The distributive advantage of private information provides an incentive for information generating activity that may quite possibly be in excess of the social value of the information."[60] The argument is this: all information has a technological as well as a redistributive dimension. In many cases, investment in information will be socially efficient because the technological gains will outweigh the costs of investment. However, in some cases, the technological effects will be less significant than the redistributive ones. In these cases, private investment can exceed social return.

Consider two cases. In one case, Jones and Smith each invest $1 to gather information, the technological effect of which is $10, while the redistributive effect is $1.50. Two dollars are spent to secure $10; $1.50 goes to the discoverer, say Jones, with the net gain of $8 shared among the group (including Jones). In the other case, Jones and Smith again invest $1 to uncover information whose social value is only $.25, but whose redistributive value is $1.50. Jones and Smith each act rationally, spending $1 to seek $1.50, but the net effect is inefficient. Two dollars are spent to create $.25. Thus, giving individuals the full benefit of the information they obtain may lead them to act in socially inefficient ways whenever the redistributive aspect of information dominates its technological dimension.

Kronman recognizes that a rule in favor of nondisclosure can create perverse incentives and, therefore, that the decision to

60. *Id.* at 570.

permit nondisclosure of certain information forces a practical choice between over- and underinvestment. His considered judgment is that because it is "certain" that eliminating property rights will result in underproduction, and "merely a danger" that recognizing them will result in overproduction, the economic case for recognizing them is strong ("but not conclusive"), especially when information is deliberately acquired.[61] Neither alternative is optimal, he notes, but assuming legal rules cannot be more finely tuned, the latter one is better.

Though Kronman relies upon considerations of the sort Hirshleifer summons, his conclusion—that a property right to information that does not require disclosure is, on balance, efficient—is, if Hirshleifer is right, unwarranted. As Hirshleifer sees it, the incentives to secure a distributive advantage "eliminate any *a priori* anticipation of underinvestment in the generation of new technological knowledge."[62] That is, investment in information that is likely to be primarily redistributive with little apparent gain in efficiency may be so great under a rule of nondisclosure that the costs of such a rule in terms of inefficient rent-seeking behavior may outweigh its benefits in terms of the production of net social gains. Thus, Kronman ought not confidently claim, as he does, that "allocative efficiency is best served by permitting one who possesses deliberately acquired information to enter and enforce favorable bargains without disclosing what he knows."[63] Whether the social gains created by a property right in information unencumbered by a requirement of disclosure will outweigh the social costs of investment depends on the relative effect—technological or redistributive—of the information.

Kronman's argument can be read as supporting a property right in information unencumbered by a disclosure rule on the grounds that any more finely-tuned rule will be too costly to administer. Administrative, rather than allocative, efficiency becomes the core of the argument. In order to create an adequate incentive to invest in information, a legal right to the information must be created, and the shape of that right, whether it requires disclosure or not, depends on considerations of ad-

61. Kronman, *supra* note 55, at 17 n.46.
62. Hirshleifer, *supra* note 59, at 573.
63. Kronman, *supra* note 55, at 17.

ministrative cost avoidance. The latter point is emphasized by Chief Justice Marshall.

The foregoing argument rests on three assumptions: first, of course, that a legal property right in information unencumbered by a disclosure rule is *necessary* to secure the benefits of information; second, that such an approach produces benefits in excess of costs; and third, that the property rule in information cannot cost-effectively be more finely-tuned. The truth of none of these assumptions is obvious. First, creating a legally enforceable right is not the *only* means to security. Indeed, people may be able to make the benefits of possession relatively more secure by resorting first to their endogenous transaction resources rather than depending upon legal rules. That was our point much emphasized in Part IV, and, as we shall show, *Laidlaw* in particular was a case in which the parties, commission merchants dealing in a competitive commodities market, were particularly well-suited to secure the gains from information in the absence of legal safeguards. Property rights were neither necessary nor rational. Second, given the risks of third-party intervention we identified in Part IV, action by the state cannot be assumed to secure benefits in excess of costs. Finally, while circumscribing a duty to disclose might be difficult, as Chief Justice Marshall opined, we cannot *a priori* rule out its feasibility in all circumstances.[64]

Even if Kronman's analysis of the problem in terms of the efficiency of a rule of nondisclosure is unpersuasive, he correctly sees the general problem: if the parties to a contract fail to allocate risks and turn to the court for remedy, what default rule makes sense? The answer depends on the risks that will be of concern to rational actors. Kronman takes it that rational actors are primarily concerned with what Hirshleifer called technological risks; in allocating the risk of a mistake, for example,

64. *See Laidlaw*, 15 U.S. (2 Wheat.) at 195. Chamberlin and Scheppele argue that Kronman's approach is wrong because the risk is deeply strategic, a risk that secrets may be employed to influence the actions or feelings of others. The question before the court is how to allocate knowledge between two parties given that one party has it already; the answer turns on the advantage people may be allowed to take of each other. This is something of a distributive risk rather than one of allocative efficiency. Chamberlin and Scheppele effect a Rawlsian solution, analyzing the legal rules as the product of a hypothetical agreement reached among rational actors in advance of knowing whether one or another will be in possession of a deep or shallow secret. *See* J. Chamberlin & K. Scheppele, Fairness and Symmetry in Information Games, Paper Presented at the Meetings of the American Political Science Association (Aug. 1986).

a nondisclosure rule imposes that risk on the mistaken party. The question before the Court in applying that default rule is whether the information required to avoid the mistake is more likely to be generated by chance or by deliberate searching. But what of the redistributive risk that Hirshleifer identified, that is, the risk that private information can be used for redistributive ends? In *Laidlaw*, do technological or redistributive risks dominate?

In bargaining theoretic terms, the default rule embraces both risks: the rule minimize the sum of the costs of uncertainty and of its avoidance. The question before the court is who is in the best position to accomplish that? In some contexts, in which the risks are primarily technological, the court should act in accord with Kronman's formulation of the default rule. When other risks, especially distributive ones, predominate, focusing on whether the information to be disclosed is more likely to be revealed by chance or by deliberate search will not be an appropriate test. In sum, Kronman may be right that the rule is efficient, but for the wrong reasons. Thus, his formula for applying the default rule is misguided.

Examining more closely the context, as well as the holding, in *Laidlaw v. Organ* provides a good illustration of a more rigorous formula consistent with the theory outlined in Sections II through IV. First, the end of the naval blockade, like a drought or a blight, describes a state of nature inevitably to be revealed to the public; information about them is less technological than distributive. So this is *not* the sort of case that, on either Kronman's or Hirshleifer's account, suggests a nondisclosure rule.

Second, the context reveals a network of pre-existing contractual agreements within which the dispute arose. That sheds light on the demand for third-party intervention and sets the stage for Chief Justice Marshall's dictum. The case concerned a contract for a commodity. Conditions in commodity markets represent a close real-world approximation to those found in a theoretical model of a pure exchange economy. Goods are exchanged on the spot, so contracts are well defined in time, place, and purpose. Allowing for readily observable differences in grades, tobacco is a relatively homogeneous and divisible good. Although merchants in a given city who specialize in one commodity might be a relatively small fraternity of members

who come to know each other over time, they tend to be sufficiently numerous—or potentially so with relatively low entry costs—so no one sets prices. So long as many exchanges occur, the primary safeguard afforded a tobacco merchant lies in the alternative merchants waiting to deal.

If tobacco merchants buy on their own accounts, as did Organ and Laidlaw, they take on an economic function more than that of sales agents. Commission merchants facilitate market exchange in two ways, both characterized by specializing in *search* activities. First, they collect a transaction fee for bringing buyers and sellers together, narrowing the spread between price bid and price asked. Second, they speculate on extrinsic circumstances, as Chief Justice Marshall phrased it, hedging their exposure to risk by adjusting their inventories. Given the uncertainties, varying initial conditions, and costs of exchange faced by their principals, commission merchants become "market makers," specialists who increase the liquidity and reduce the costs of participating in the commodity trade.[65]

We might expect these merchants to have ample endogenous resources for private contracting. Long before *Laidlaw v. Organ*, they invested in information, making deals and allowing producers to specialize in production. They need no third party to *mediate*; indeed, the merchants are mediators. Moreover, these merchants regularly negotiate over quantity, quality, and price. The risks of unfair divisions are mitigated by transforming the decisions into a sequence solvable within the constraints of available bargaining resources held by private parties. As a consequence these merchants do not normally need a third party to *arbitrate*. Finally, alternative exchange opportunities and reputation effects typically mitigate defection incentives without unduly straining enforcement resources. Thus, the merchants need not risk creating a third-party *enforcer*, except to deal with those categories of defections that are unusually costly to safeguard.

In short, given the theory presented here in which the principal parties are viewed as rational actors embeded in particular

65. "[S]peculation in grain, for example by setting aside a certain class of persons to assume the risks of trade, has the effect of reducing these risks by putting them in the hands of those who have most knowledge, for, as we have seen, risk varies inversely with knowledge." I. FISHER, THE THEORY OF INTEREST 221 (1930); *see also* S. KHOURY, SPECULATIVE MARKETS 169-70 (1984); Williams, *Futures Markets: A Consequence of Risk Aversion or Transaction Costs*, 95 J. POL. ECON. 1000 (1987).

contexts, it would appear to follow that neither Laidlow nor Organ had sufficient reason to seek any form of third-party intervention. The context, which is so important to our analysis, is one that suggests that the parties in this case possessed easy access to ample endogenous transaction resources.

Two aspects of the case need to be explained. The first is the holding in the case; the second is the dicta. To explain the Supreme Court's holding in the case, we need first to understand how the case came to court, and the question of law the Court was asked to resolve. Recall that we distinguish among three sorts of risks parties will seek to safeguard against, first by deploying endogenous transaction resources, and then by pursuing third-party intervention in the event their resources are inadequate to the task. These are risks of failed coordination, division and defection. When courts are sought to safeguard, we say that they play mediation, arbitration or enforcement roles respectively.

The case comes to court framed as a defection problem in which the principal parties are requesting the court to play an enforcement or policing role. Organ brought the case to court claiming Laidlaw's breach. Laidlaw's defense to the charge of breach rested on Organ's alleged fraudulent misrepresentation of the facts. For his part, Organ sued for possession of the tobacco and for his damages, in effect seeking to employ the power of the state to enforce the contract and, thereby, to punish Laidlaw's breach. The trial judge refused to submit the question of fraud to the jury. The jury refused to award damages, preferring instead to award possession of the tobacco. To be sure, Laidlaw's counsel raised the division problem on appeal: "Though [Laidlaw], after they heard the news of peace, still went on, in ignorance of their legal rights, to complete the contract, equity will protect them."[66]

Because the issue as presented on appeal was that of fraud, the Supreme Court could not avoid addressing the question of defection. It agreed with Laidlaw that the trial judge erred in refusing to submit the question of fraud to the jury and accordingly remanded for a new trial. On the other hand the court did not allow itself to be dragged into protecting against unfair divisions under precisely the conditions where the parties could

66. *Laidlaw*, 15 U.S. (2 Wheat) at 190.

safeguard privately at much lower transaction cost. Division problems are more cheaply solved in a competitive market, as was the context here, than in a court. That accounts in part for Chief Justice Marshall's concern about the administrative costs of judicial intervention: "It would be difficult to circumscribe the contrary doctrine [disclosure] within proper limits, where the means of intelligence are equally accessible to both parties."[67]

Following Kronman's lead, economic analysis ignores the Court's holding, focusing entirely on Chief Justice Marshall's dictum. Our analysis offers a plausible reconstruction of both. Part III shows that safeguarding against defection is the most information-intensive of the three dimensions in rational contracting. The calculus of safeguarding against breach is the most complex. The probability of mistake is greatest and, accordingly, so are the costs of guarding against it.

To see this, consider the difference between errors made in safeguarding divisions and those made in safeguarding against potential defections. If the principals or a court errs in safeguarding against unfair division, the error simply moves the parties from one point along the contract curve to another. The parties remain on the contract curve and, therefore, are better off than both would have been had no contract been made.

In contrast, a mistake in discerning or correcting for an alleged breach can make either party worse off than he would have been in the absence of agreement. Mistakenly determining that no breach has occurred enforces the breaching party's nonperformance payoff. That necessarily makes the other party worse off than he was at the point of no agreement, that is, the status quo. On the other hand, because the force of agreement is aimed at displacing the defection payoff towards the point of no agreement, imposing a penalty when no breach has occurred forces both parties off the contract curve.

Further, when a court as third party determines that a breach has occurred, it sends a message of potential unreliability to other potential cooperators. It thus chills cooperative endeavors. It reminds the parties of the need to expend transaction resources to reduce the probability of nonperformance, and it reminds everyone that sometimes even the optimal expendi-

67. *Id.* at 195.

ture of resources will not foreclose entirely the chance of being victimized by one's partners.

Given this, it is that much more important that courts reduce the probability of error. Court decisions regarding divisions of the gains from trade have no comparable effects on markets. In this sense, mutual trust is more important than is fairness to a scheme of cooperation by contract. In sum, the greatest probability and cost of making a mistake in rational contracting occur in discerning or protecting against defection.

As between a judge and a jury, the jury is better positioned to determine whether a fraudulent "imposition was practiced," that is, whether a defection occured. The reason is rather straight-forward. A finding of fraud typically turns heavily on findings of fact, such as the prevailing practices in the business community (because that delimits what each party can be assumed to have known) and who communicated what, to whom and when. For accuracy, reliability, and community representation in fact finding, a multi-member decision-making body operating under unanimity rule is preferable to a single decision maker, perhaps even an experienced one.[68] Given that the principal parties could no longer resolve the issue privately, remanding for a new jury trial places discretion where the sum of the costs of uncertainty and of safeguarding against it are likely to be least. Thus, our theory provides an extremely plausible account of the case's holding. Now to Chief Justice Marshall's famous dictum.

One supposes that part of what makes commodities markets valuable is their ability to process information—even information about extraordinary events—without recourse to either violent or legal action. However extraordinary an event the signing of a treaty is, it is not more so than is a blight or drought, all of which create opportunities for merchants to use for their personal benefit information not yet available to others.

After having turned over the tobacco, on the day following circulation of the handbill announcing the Treaty, Laidlaw, "by force" retook possession of the tobacco and withheld it from Organ. That action, should it prevail as a practice, would

68. *See* R. HASTIE, S. PENROD, & N. PENNINGTON, INSIDE THE JURY (1983); Kaye, *And Then There Were Twelve: Statistical Reasoning, the Supreme Court, and the Size of the Jury*, 68 CALIF. L. REV. 1004 (1980).

threaten the network of communication channels that makes possible market exchange, the specialized normative infrastructure that permits commission merchants to extract payment for their services. The decision to seek to sequester only highlights the extent of the risk, for doing so put at risk whatever gains had been captured by the initial contractual scheme of cooperation.[69]

Think of the problem this way: Laidlaw and Organ are potential cooperators. They disagree about whether individuals who have private information affecting prices should make full disclosure to their contracting partners. That they disagree about disclosure may be unknown to both of them, and in the bulk of the transactions between them their disagreement has no impact. In the circumstances presented by the facts of the case, however, the difference of opinion obviously makes a difference. The important difference between the parties, however, is *not* that one of them is right from either a moral or an economic point of view about the duty to disclose. Rather, what is important is the existence of a *difference*, period. The existence of a difference makes coordination difficult. Bargaining is always easier when property rights are well defined, and it is most difficult when genuine disagreement about them exists.

This disagreement about the norm regarding disclosure or its applicability in the circumstances surrounding the sale is played out in Laidlaw's recapture of the tobacco (or his failing to deliver it—depending on one's reading of the record). This action ultimately invites the Supreme Court to provide an authoritative pronouncement regarding disclosure or misrepresentation. In doing so the Court will play a *mediating* role, specifying authoritatively the norms governing market transactions, thereby reducing the risks and costs of cooperation. To

69. Although two parties always invest in crafting contractual safeguards when allocating risk, it is particularly difficult to craft a force of agreement that will ensure compliance when, as here, the contract entails the small risk of a large loss. Laidlaw lost big. The facts ex post created a circumstance in which reclaiming the tobacco made sense even accounting for possible legal action by Organ and approbation from the community. Whatever privately enforced norms existed among commodity brokers in New Orleans, Laidlaw, who appeared to be performing in accord with the contract long after news of the Treaty circulated, no doubt had to confront his client, a New York merchant who might not have had a stake in those norms. Indeed, whether in the absence of legal action reputation effects would have ultimately punished Laidlaw or Organ for violating a norm could well have been unclear. Given the immediate stakes, each party had ample incentive to seek authoritative affirmation of his view.

see this, we should consider both the context of the case and the longevity of the Court's dictum.

We can distinguish between the coordination and welfare effects of a rule. In circumstances of the sort commission merchants faced, any authoritative rule would have solved their coordination problem. This was, as we noted, a highly competitive market in which the principal parties were repeat players. What Laidlaw and Organ needed was an authoritative characterization of the rule—whatever its content. In that sense, either ruling on disclosure would have sufficed. Thus, from a coordination point of view, the rule expressed in Chief Justice Marshall's opinion has no special efficacy with respect to people investing efficiently in information. Once the rule is in place, negotiations between the parties are easier because the threat of noncoordination is reduced.

If it happens that all negotiating parties discover that they could do better under the alternative rule, then the rule the court announces will be unstable. No party will diverge from it unilaterally but all may be inclined to do so jointly. In the case under discussion, as we already noted, the private information concerned *price changes* and was fundamentally distributive, not productive, in its impact. Thus, there is no reason to think that a norm requiring disclosure would be any less efficient from a welfare point of view than would the rule the court actually advanced. So in the instant case and in competitive or repeat play circumstances generally, either ruling would be efficient in both the coordination and welfare sense.

The point of the Court's opinion, then, is to facilitate communication by providing salience in the form of a nearly arbitrary choice. With respect to all other matters relating to coordination, the Court put the burden of deciding how much to expend on safeguarding squarely on the shoulders of those in the best position to exercise that judgment—the principal parties. That is just as it should be. As Michael Taylor has argued in other contexts, by serving an authoritative coordination role unnecessarily, the state decreases the incentives for parties to devise creative solutions of their own.[70] By substituting legal pronouncements for endogenously devised ones, the state weakens the bonds of community, or, in this case, weak-

70. *See* M. TAYLOR, ANARCHY, COMMUNITY AND LIBERTY (1982).

ens the market structure. In short, however disinclined they may become to rely upon or to exhaust their transaction resources in favor of a third-party solution, when the principal parties remain in the best position to contract efficiently, courts should place the burdens of safeguarding on them. That is precisely what this case does.

We say that the Court's choice of a rule that does not require disclosure is *nearly*, but not fully arbitrary, for the following reason. Sometimes principal parties will lack endogenous transaction resources sufficient to resolve all conflicts on the terms of cooperation. Perhaps the market in which they transact is inadequately competitive and therefore too few alternatives exist; or the players are contracting on a one-time basis, in which reputational effects are minimized. In these circumstances the parties may rationally call upon the court to mediate. In that event, the rule that does not impose a duty to disclose may be easier to administer than likely alternatives to it. Moreover, if the Court retained discretion to allocate the search and distributive risks involved here, it might incur high direct costs as well as frequently abuse the notions of fair division held by private parties and communities, thereby calling into question the legitimacy of its value as a third-party intervenor.

This is a case about coordination and mediation. As such, either legal rule would have sufficed. Moreover, from the point of view of wealth or welfare maximization, the circumstances of this case provide no argument for nondisclosure as a default rule ex ante. In short, the choice of the nondisclosure rule rests ultimately on considerations of administrative efficiency.

To sum up, Kronman, like much of the law and economics literature that follows his article, reads *Laidlaw* as creating a property right in information, one that can be squared with efficiency. We have argued first that a property right in information may not be generally efficient, and second that a more compelling characterization of *Laidlaw*, one that follows from the theory developed here, sees it primarily as a court resolving a coordination problem by providing salience via authoritative ruling. A court thus mediates rather than arbitrates or polices and, in that way, protects against the transaction-resource frontier shrinking.

Though our analysis of *Laidlaw* is at odds with traditional economic analysis, there are bound to be many areas of over-

lap. After all, nothing we have said diminishes the incentives associated with protecting the right of one party to realize the gains associated from specialized investments in information. However, it may not be necessary or appropriate to reach the distinction emphasized by Kronman between casual and deliberately acquired information in order to explain the case law. A more plausible explanation, we believe, has the Court distinguishing among the relative efficacy of alternative safeguards—including judicial intervention—given the risks of contract failure involved, and placing responsibility and discretion with the party or parties who are in the best position to safeguard. Perhaps we can further illustrate the force of our theory by comparing the analysis of other cases it suggests with the analysis Kronman offers.

Two lines of cases Kronman explores involve real estate, either the existence of subsurface oil or mineral deposits known by the buyer but not the seller, or the anticipation of a development of some sort that will make the property in question more valuable.[71] In both cases we have speculative, commodity-like markets. Courts would avoid intervening without more compelling reason because the disputants are the most efficient allocators of the risks.[72]

The third line of cases involves distinguishing patent from latent defects. The logic of the standard economic argument merits attention. Suppose the seller can come by the information about a defect without deliberate investigation. If the argu-

71. In the case of Neill v. Shamburg, 158 Pa. 263, 27 A. 992 (1893), a cotenant on an oil lease, Shamburg, discovered a particularly valuable well in the course of developing an adjacent parcel. He did not disclose this when he purchased the interst of his cotentant, Neill. The court rejected Neill's request to set aside the sale. Curiously, Shamburg's information might have been casually acquired in the sense Kronman means; Shamburg was incurring costs to develop the adjacent parcel for oil production anyway.

72. Kronman notes that the courts find a compelling reason in many of these cases because the problem involves breach of a confidential or fiduciary relation between parties to the contract. In these instances, failure to disclose is constructively fraudulent—defection. In other instances, the problem involves discriminating between nondisclosure and positive misrepresentation (fraud). Because these cases center on difficult questions of fact "about which it is difficult to generalize in a way that is theoretically interesting," he elects not to discuss these problems. *See* Kronman, *supra* note 55, at 19. From the perspective of bargaining and transaction costs, interesting generalizations become possible. We should be able to discriminate among these sorts of relationships, that is, guardian and ward, partner and copartners, principal and agent, where market safeguards will be less readily available to mitigate heightened risks, especially ex post risks of defection. In addition, discriminating who is in the best position to ascertain facts and act efficiently with respect to them should prove more tractable than ascertaining the facts themselves.

ment against a disclosure rule applies to information available only through investment in discovery, why do the courts not impose a duty to disclose on the seller as the party able to avoid a mistake at least cost? In fact, the court imposes no such duty. Kronman resolves the inconsistency by saying the "rule that a seller of real property has no duty to disclose *patent* defects makes economic sense where—as is often the case—the seller has no reason to know that the buyer is mistaken."[73] Kronman's resolution does not reach the question whether the seller would come by the information through deliberate investigation for defects, and therefore does not invoke the distinction between casual and deliberate means of obtaining information. Rather, his solution invokes considerations much more amenable to our analysis, for it turns on the question of who should allocate risk when information is public and, hence, has no economic value; that is, information as a safeguard is cheap. And markets provide the most efficient safeguards when no party need invest heavily in information about other parties' knowledge (doing that makes more sense in contexts where the division or defection incentives are particularly high and alternative safeguards are few). So the issue Kronman finds decisive is the same one we find decisive. A court would not intervene so long as market safeguards are available.

On the other hand, courts tend to impose a duty to disclose *latent* defects in products, such as termites in a house for sale. As Kronman says, a disclosure requirement would not be likely to reduce the production of such information.[74] But distinguishing on this score between information about attributes of goods held for sale, as in this case, and information about markets such as demand or supply shifts, as in *Laidlaw*, is not so helpful. For example, availability of product and support services may be attributes affecting price. Most importantly, with latent defects the distributive risks overwhelm the technological risks; ex post costs of remedy for unfair divisions are high, if contractual remedy exists at all.

A reputation for fair dealing helps, but in a fragmented industry such as housing, especially existing housing, reputation is a scarce commodity. Perhaps one motivation for state courts permitting nondisclosure about termites through the mid

73. *Id.* at 23.
74. *See id.* at 25.

1950s and requiring disclosure more frequently thereafter was an explosion in owner-occupied housing likely to generate numerous occasions of defection by failing to disclose latent defects. Indeed, only recently have real estate brokers begun to offer inspection services and guarantees (sometimes because mortgagors require it), in effect acting as a centralized bonding agency.

B. *The Default Rule Revisited*

We close with a brief reconsideration of the default rule. The most powerful implication of our analysis of rational bargaining for contract law concerns the legitimacy of applying the so-called default rule. Courts are often required to fill in the blanks of incomplete contracts by answering the question of what the parties would have agreed to ex ante. Hopefully, one thing we have made perfectly clear is that answering that question is no trivial undertaking—even under the best of circumstances.

Economists of law cite the "ex ante contract" as part of the argument for applying an efficiency interpretation of contract doctrine. Their reason for doing so is clear. The ex ante contract is to be modeled as a rational bargain between the parties and Pareto optimality (joint rationality) is a condition of rational bargaining. Indeed it is.

But so are the conditions of individual and concession rationality. And in all cases, satisfying the demands of rationality in a contract are considerably more complex than the handwaving response of the legal economist—namely, to find an allocation of rights and responsibilities that is jointly wealth maximizing—would suggest. In fact, any number of distributions of rights and responsibilities between the parties would be jointly profit maximizing. These distributions differ from one another in how they divide the gains from contracting. Thus, to impose any jointly maximizing allocation of rights and responsibilities is incompatible with the lessons of the rational bargaining model developed here. For rational bargainers are as concerned with problems of rational division as they are with joint rationality. It is, therefore, as inappropriate for courts to impose jointly maximizing outcomes on them in the name of efficiency without regard to concession rationality as it would be to impose a distribution of rights and responsibilities that satisfies

the concession rationality condition without regard to whether that distribution is jointly rational (or profit maximizing).

More importantly, empty appeals to abstract efficiency or justice ignore the importance of context to rational contractors. What rational parties are prepared ex ante to leave for a court to resolve depends on the transaction resources available endogenously. Attending to those factors enables us to see *Laidlaw* as a case in which the court is being asked to solve a coordination problem by providing an authoritative statement of the norm regarding disclosure. Failing to attend to specific contextual features of disputes in the name of reconstruction in the light of the abstract norms of efficiency and justice makes a mockery of the idea of the ex ante contract as a default rule. For in abstracting from the context, a court is disabled from asking "What would *these* parties have agreed to ex ante?" and asks instead "What would be efficient or just from a global point of view?" We have no doubt that it is an interesting question to ask what is either just or efficient, but it is simply not the question the ex ante contract as a default rule necessarily asks.[75]

75. The approach we are developing here takes seriously the idea that in filling out incomplete contracts, courts ought to impose on the parties ex post that to which they would have agreed to ex ante. To do that, courts must reconstruct a hypothetical rational bargain between (or among) the parties. What rational individuals in fact agree to under certain conditions need be neither fair nor efficient. Thus, that to which they would have agreed under those conditions may also be neither fair nor efficient. Do we really mean to suggest that courts should impose a division of rights, responsibilities and risks that merely transmits inequities in the parties' relative bargaining positions, thereby exacerbating, rather than alleviating, whatever injustices between them already exist?

This is a difficult question. Our tentative answer is a qualified "yes." One central aspect of the rational bargaining approach is the importance of conserving transaction resources. To see this, imagine any default rule that sought to rectify pre-existing inequalities by imposing rights and responsibilities ex post in a way that nullified or minimized pre-existing advantages. Because any default rule would be in effect only to the extent that the parties did not contract around it, its net effect would be to encourage as little reliance upon it as would be rational for the parties. In order to protect pre-existing advantages, parties will simply seek more completely to specify their contracts, thus reducing the rule's impact. By doing so, both parties will further deplete their resources, reducing the extent to which those resources can be employed to reduce uncertainty regarding other aspects of negotiations.

Secondly, we should draw a distinction between two concepts of fairness, one endogenous to the transactional framework, the other external to it. We would not want to dispute the possibility of a standard of justice in distribution according to which both pre-existing holding and entitlements that result from the contractual process can be evaluated or criticized. By such a standard, it may well be that a default rule of the sort we are discussing encourages rather than reduces unfairness. Notice, however, that the default rule merely transmits the unfairness of the initial holdings. The unfairness, if there is one, resides in the conditions that comprise the parties' relative bargaining

Whatever one's theory of contractual obligation, whether based on consent, promising or rationality, a minimum condition for justifiably applying the default rule is that it imposes obligations on the parties—including the use of third-party interveners—that reflects what would have been rational for them in the circumstances of their contract. But on any such account, to impose jointly rational outcomes without regard to context is, at the least, to incompletely understand the default rule, and, at worst, to encumber individuals by unjustifiably exercising the coercive authority of the state.[76]

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positions. To rectify that problem, we should want to preclude *explicit* agreements that take advantage of those inequities, not just those that are imposed in the absence of explicit agreement. There is, in other words, nothing especially objectionable about the default rule itself. Moreover, it is a further question whether these sorts of inequalities are best rectified by courts on a case-by-case basis.

Let us consider the concept of transactional fairness. Any default rule that sought to annul ex post a pre-existing advantage would confer upon the advantaged party less than he could have or would have secured by making the terms of the agreement explicit. In doing so, the rule may treat that party unfairly relative to his trading partners. Not only would such a rule fail the test of rationality by encouraging the use of transaction resources, thereby increasing uncertainty, it may treat the parties, at least from a transactional point of view, unfairly.

76. To examine the role of the court when it is asked to solve division problems by playing what we have called an arbitrating role, one could look to a line of cases and scholarship associated with doctrines such as *laesio enormis* (under Roman law, a standard of equivalence in exchange that, despite its apparent rejection in modern times, arguably has been smuggled into current doctrines under other guises) or unconscionability (a test evaluating one-sided clauses that oppress or unfairly surprise a party). This examination would uncover the guidelines or principles of fairness that may be covert, and should be overt, in common law; and it would assess these in view of the theory of rational bargaining proposed here. *See* Eisenberg, *The Bargain Principle and its Limits*, 95 HARV. L. REV. 741 (1982); Trebilcock, *The Doctrine of Inequality of Bargaining Power: Post-Benthamite Economics in the House of Lords*, 26 TORONTO L.J. 359 (1976).

To examine the role of the court when it is asked to solve defection problems by playing what we have called an enforcing role, one could look at doctrines associated with damage measures or specific performance. For example, the model of behavior posited in the divisible prisoner's dilemma has parallels in the analysis of expectation, reliance, and restitution measures in Fuller & Purdue, *The Reliance Interest in Contract Damages*, 46 YALE L.J. 52 (1936); *see also* Bishop, *The Choice of Remedy for Breach of Contract*, 14 J. LEGAL STUD. 299 (1985); Goetz & Scott, *Liquidated Damages, Penalties, and the Just Compensation Principle: Some Notes on an Enforcement Model and a Theory of Efficient Breach*, 77 COLUM. L. REV. 554 (1977); Goetz & Scott, *The Mitigation Principle: Toward a General Theory of Contractual Obligation*, 69 VA. L. REV. 967 1983); Rubin, *Unenforceable Contracts: Penalty Clauses and Specific Performance*, 10 J. LEGAL STUD. 237 (1981).

Extensions of the analysis could apply to statutory law as well, accounting for conditions under which juducial intervention will tend to prove less satisfactory than legislative action. For example, in the context of administrative processes, see Heckathorn & Maser, *supra* note 30. In the context of constitutional choice, *see* Heckathorn & Maser, *Bargaining and Constitutional Contracts*, 31 AM. J. POL. SCI. 142 (1987).